John Wyllie Directed First Correspondence Course for Refrigeration Engineers with Nizer Corp. 10 Years Ago

Many veteran service men and field engineers now active in the industry, particularly those who specialize in commercial refrigeration, received their early training in refrigeration operation and service fundamentals from a correspondence school which was being conducted 10 years ago by John Wyllie, now general manager of Temprite Products, Inc., but at the time connected with Nizer Corp.

As late as two or three years ago Mr. Wyllie's series of 24 lessons, each with its own examination sheet, was regarded by many as the most practical and easy-to-understand written work dealing with fundamentals of mechanical refrigeration.

Selected by Course for Training

Mr. Wyllie is a young man, but a veteran in the refrigeration industry. When he was conducting the Nizer correspondence course 10 years ago he was only two years removed from academic halls. He was one of the group of students which J. Robert Crouse, head of the Nizer Corp., selected from the University of Michigan to go into training for executive positions with his company. John had a brilliant scholastic record at Ann Arbor, having been elected a member of Tau Beta Pi, honorary engineering fraternity.

Most of the college students thus selected quit within six months period when they were not appointed to the position of general manager, or one of equal rank. But Mr. Wyllie stuck around, even though office politics and other circumstances kept him doing what practically amounted to factory labor, first in the plant, and then in the factory service department.

He was later taken out of the factory to do field service work on Nizer ice cream cabinets, instructing the employes of ice cream manufacturers how to install and service the cabinets.

It is related that at such meetings competition would place hecklers in the audience to ask Mr. Wyllie tough and embarrassing questions, but those who worked with him declare that never did he fail to give a complete or satisfactory answer to any question put to him.

6,000 Students at One Time

In 1926 Mr. Wyllie organized the Nizer Service Correspondence School which was open to anyone interested in learning more about electric refrigeration. At one time 6,000 students from all parts of the world were enrolled in this school.

The course consisted of 24 booklets, dealing with different phases of refrigeration operation methods and servicing problems, all of which were written by Mr. Wyllie. With each lesson came an examination paper, which the student filled out and sent in to Mr. Wyllie to be graded.

A number of the lessons were published in early issue of ELECTRIC REFRIGERATION NEWS.

Following are some of the questions from an examination paper on one of the lessons. The answers given here scored a grade of 100%.

Examination No. 3

1. Give an advantage of: (a) The water-cooled compressor. (b) The air-cooled compressor.

Answer: (a) The water-cooled compressor is advantageous where cold water is available for condenser cooling as it operates at a very low condenser pressure, which means that wear and tear on parts is less than in air cooled, consequently longer life. Also current consumption is less by reason of lighter load on motor. (b) The air-cooled compressor is advantageous by reason of ease of installation as it is placed in operation by connection of its wires only to the nearest source of current supply.

2. In the installation of the cabinet it is advisable to connect the "hot" wire to the black wire on the outlet box. How is the "hot" wire found?

Answer: Connect one wire on a test lamp to a ground (usually a water pipe) and with other wire touch separately the two wires of supply system. The wire in connection with which test lamp burns is the hot wire. (Note: If touching the two supply wires gives same result, the system is not grounded and either of the two supply wires can be connected to black wire in cabinet.)

3. (a) To what height should the brine tank be filled? (b) State two methods by which the brine may be cooled before installation.

Answer: (a) Fill to about 1 inch of top. (b) 1. Place in cold (or hardening) room. 2. Mix alcohol with cracked ice in proportion of 4 gal. alcohol to 50 lbs. of ice. This will provide 10 gal. of proper strength brine.

4. Name two important points in connection with connecting the gas lines in a remote installation.

Answer: Care must be taken to keep dirt and moisture out of the lines and make joints perfectly tight. Also lines must be purged to prevent air entering system.

6. Draw a line after the words in the table below which do not apply to the condition or state of the *refrigerant* during normal operation of the system.

* * *

Part	——SO₂——		——Pressure——		——Temperature——	
Evaporator	Liquid	Gas	High——	Low	High——	Low
Crankcase	Liquid——	Gas	High——	Low	.....	....
Condenser	Liquid	Gas	High	Low——	High	Low——

* * *

7. Trace briefly the path of the oil through the system.

Answer: Commencing with crankcase, a portion is drawn into cylinder with low-pressure gas and is discharged into condenser through exhaust valve where it goes into solution with liquid gas under pressure—thence travels with it to receiver—through into liquid line and back to evaporator through float valve: thereafter owing to evaporation of gas it separates therefrom and settles on top of liquid gas (being lighter). As the oil rises in evaporator owing to continued flow of liquid gas into evaporator it reaches overflow hole in suction line whence it slowly travels by gravity and force of gas back to crankcase thus completing cycle.

8. (a) Name the three units which make up the electric circuit of the Nizer water-cooled machine. (b) How are these units connected?

Answer: (a) Switch. Motor. Water valve. (b) In series (as above) and should always be connected in order (as above) so that current flows through each unit in turn beginning with switch and ending with water valve.

9. What actually operates the controller mechanism?

Answer: Pressure of gas within evaporator.

10. How is the speed of the motor increased?

Answer: Move brushes to the left.

Assisted Beresford and Woodbridge

A. W. Berresford, vice president of the Nizer Corp. in charge of engineering, appointed Mr. Wyllie as his assistant. In 1928 Mr. Wyllie became special representative to C. K. Woodbridge, president of Kelvinator Corp., with which Nizer had been merged.

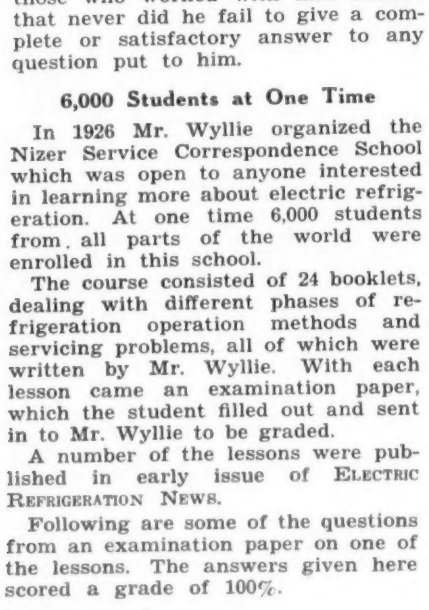
Shortly thereafter he was appointed assistant manager of the Kelvinator commercial sales department. In 1929 he was sent to New York City to take over the direction of commercial sales for the New York branch. In 1930 he returned to Detroit to organize and manage the Kelvinator commercial engineering department.

In 1933 he organized the sales engineering department of Kelvinator Corp. and was manager of the department when he left (in May, 1934) to join Temprite Products, first as sales manager, and then later as general manager.

With his position in commercial application engineering at Kelvinator Mr. Wyllie continued his work in educating field engineers, dealers, and servicemen in modern practical refrigeration engineering.

At Temprite Products he has confined most of his study and writings to liquid cooling problems, and is considered as a foremost authority on beverage cooling by both the refrigeration and the beverage industries.

Taught Service Men



JOHN WYLLIE

Pioneer Service Man

BEN. G. HYATT

* * *

Hyatt Has Been in Service Field Since 1917

Though it would probably be impossible for any individual to prove the claim that he was the first service man in the small-machine refrigeration field, there are few men in the industry who can claim a record of continued service that goes back as far as that of Ben G. Hyatt, national service manager for Copeland Refrigeration Corp.

Mr. Hyatt's first connection with refrigeration came in 1917, when the company with which he was then employed, the Unie Electric Co., was making parts for the Guardian Frigerator, predecessor of the Frigidiare Corp.

He joined the newly-formed Frigidaire Corp. in 1918, working on service and in the plant. In 1921 he became connected with Kelvinator Corp., taking charge of the thermostat department and small parts assembly.

While at Kelvinator, in 1922, Mr. Hyatt designed what he believes to be the first ratchet wrench for use on shut-off valves. This style of wrench is now universally used by service men.

In 1926 Mr. Hyatt went with the Strelinger-Copeland Co. of Detroit as installation and service manager. Five years later he joined the Copeland-Detroit Co., a factory branch, as commercial sales engineer.

In this position he installed several unusual jobs, among them the room coolers for the Puritan Cafe, one of the first unit air-conditioner jobs installed in Detroit; the first Kold-Hold truck system using a Copeland condensing unit; and one of the first solution cooling systems for picture developing.

After leaving the Detroit-Copeland Co. he joined the factory service staff and is now national service manager.

Bonney Forge Designs 2 New Tools for Use of Service Men

ALLENTOWN, Pa.—Two new tools for the service man—a plier for removing lock ring washers, and a flashlight screw driver—have just been put on the market by Bonney Forge & Tool Works.

The screw driver is designed for use by the mechanic whose work on automobiles, refrigerators, oil burners, or radios requires light for close adjustments. By switching on the light in the handle, ample illumination is provided.

The plier is drop-forged of chrome-alloy steel, and measures 8 in. overall. Outside of the jaws is toothed to prevent slipping while removing washers. The tool is designed to spread any lock ring washer up to 1¼-in. in diameter.

'ABC's of V-Belts' Covered In New Manual Issued By Dayton Rubber

DAYTON—Dayton Rubber Mfg. Co.'s manual on Dayton cog-belt drives, titled "The ABC's of V-Belt" and dealing both with the construction methods and market possibilities, was written to give industrial distributors of that product a concise merchandising program; to enable them to locate the market, and present their sales talk in the least possible time.

Written in primer form with plenty of pictures and brief text in large type, the manual, company officials claim, can be readily digested in less than half an hour.

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UNUSUAL FACTS IN SPORTS

Girl Stars in Football

Playing center, 1935, on the Middlefield (Conn.) Air Cadets, a boy's team, Esther Burnham, 14, is said to have passed perfectly, intercepted numerous forward passes. Records show she was of greatest value, however, in backing up the line!

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THE NEWSPAPER OF THE INDUSTRY

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REFRIGERATION NEWS

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Sales Hit Peaks At Electric Show In Philadelphia

All-Electric Kitchens in Spotlight as Record Crowds Jam Displays

By Phil B. Redeker

PHILADELPHIA—With attendance at least equaling and probably bettering last year's record of 190,000, the ninth annual Philadelphia Electric and Radio Show closed here Saturday with exhibitors reporting greater sales than in any other year.

Only lack of adequate parking facilities near the Municipal Auditorium kept the attendance from going higher, on one night alone more than 2,000 cars being turned away.

Widely publicized in the press (whole sections being devoted to the affair just before it opened) and by signboards, on the radio, and with musical entertainment in lavish style, the show brought in a steady stream of visitors during the day, and overflow throngs at night.

All-electric kitchens stole the show this year. A number of them, in different styles and arrangements, were built along the center of the exposition space by the Philadelphia Electric Co. Admiring housewives jammed them so full that salesmen were unable to take care of many demands for information.

This electric kitchen promotion is beginning to take effect in Philadelphia. In an experiment, 200 new homes were equipped, through cooperation with builders, with modern electric kitchens.

So well were they received that the program will be extended to 800 houses, says George Conover, manager of the Philadelphia Electric Association. And here's one thing important in this project—all houses so equipped are in Philadelphia proper, not in the residential suburbs.

The show itself, as far as refrigeration is concerned, has its chief value in keeping alive interest in refrigeration during the fall and planting the seeds for a Christmas drive.

A story told by C. K. West, General Electric vice president and president of the Electrical Association, illustrates this factor.

Getting a shine from a colored bootblack, Mr. West asked him if he had been to the show.

"Can't afford to, boss," was the reply.

"Well, the admission may seem a little high," Mr. West ventured, "but it's a great show with plenty to see."

"It's not the admission, boss," the colored boy replied, "but last year my wife took me out there, and she fell in love with one of them refrigerators, and I just had to get it for her as a Christmas present. So I ain't gonna be caught like that again."

Reductions in Prices Are Announced On Freon-12

WILMINGTON, Del.—Effective Oct. 1 for the period of a year, reductions in the prices of Freon-12 refrigerant have been announced by Kinetic Chemicals, Inc.

The reductions amount to $.04 per lb. on 2,000-lb. drums; $.069 per lb. on 145-lb. cylinders; $.077 per lb. on 25-lb. cylinders; and $.057 per lb. on 10-lb. cylinders.

A further reduction in warehouse charges has also been made.

Universal Cooler Dollar Volume Up 52% During Past Year

DETROIT—Dollar volume of Universal Cooler Corp. household sales for the fiscal year ended Sept. 30 increased 52% over the previous fiscal year, President Frank S. McNeal said in announcing a dividend of $1 per share on "A" stock, and 10 cents per share on "B" stock, payable Oct. 20 to stock of record Oct. 12.

Commercial sales were up 20% over the previous year, President McNeal reported.

Aug. Conditioning Orders Valued At $3,584,157

WASHINGTON, D. C.—Value of orders booked for air-conditioning systems and equipment during August amounted to $3,584,157, according to statistics covering 98 manufacturers released last week by Director William L. Austin of the Bureau of the Census.

July orders, the report shows, were 13.6% below the $4,155,853 worth of equipment sold during July, which, in turn, were 4.2% below the $4,336,636 in orders booked during June. May was the year's peak month, with sales during that period reaching $4,412,681.

Air-conditioning equipment orders booked during the eight-month period total $28,156,456, the report reveals. Of this amount, $13,465,767 is in the air-conditioning group proper, with $9,299,089 for fans, and $5,391,600 for unit heater equipment.

Monthly sales totals in the three

(Concluded on Page 13, Column 3)

Grunow Shows Profit Of $93,160 in Eight Months Period

CHICAGO—In a report to stockholders for the fiscal year ended July 31, General Household Utilities Co. shows current assets of $2,496,898.04, with cash on hand and in banks totaling $203,933.04, compared with current liabilities of $1,017,666.38.

The company's operations are broken down into two periods in the report—one covering from Aug. 1, 1935, to Nov. 19, 1935, the period before the company petitioned for reorganization under Section 77B, and the other covering Nov. 20 to July 31, 1936, during which operations were under 77B.

During the latter period, the report reveals, reductions in expenses and operating costs enabled the company to show a net profit, after depreciation of $160,058.19, of $93,160.46. Net loss for the year as a whole, however, was $357,003.51, after depreciation charges of $236,494.90. All reorganization expenses have been charged to surplus, the report states.

Reductions in operating expenses, the report points out, are being continued, the company earning, in August, 1936, $48,906.94, after depreciation. Profits for September are estimated at $120,000, after depreciation.

Annual meeting of General Household Utilities stockholders was scheduled for Oct. 13 at 11 a. m., at the company's office, 2638 North Pulaski Rd. Election of a board of directors for the coming year was the principal business to be transacted.

As Furniture Men View Guarantees

National Furniture Review

Refrigerators Out of 'Free' Class as Canada Interprets Customs Exemption Law

OTTAWA, Ont.—Only goods which may be considered as "baggage" are included in the $100 customs exemption granted by the Canadian government to residents returning from abroad, according to an interpretation of the customs regulation obtained from the government by U. S. Assistant Commercial Attache Oliver B. North.

Considerable misunderstanding had previously arisen concerning importation of electric refrigerators, which, it was at first thought, were included in the $100 exemption clause (ELECTRIC REFRIGERATION NEWS, Aug. 26).

Residents of Canadian border cities were reported to be traveling across the line, particularly in the vicinity of Niagara Falls and Buffalo, and bringing back with them refrigerators selling for $99.50, just under the exemption limit. For a while this practice was permitted, but Canadian customs officials, on orders from Ottawa, later rescinded the move.

The current interpretation clears up the misunderstanding, and limits permissable importations to articles properly classified as "baggage." Articles taken in as gifts may also be

(Concluded on Page 2, Column 2)

Coming Feature Issues Of the News

Nov. 4—Product Development Number.

A survey of significant improvements in refrigeration and air-conditioning equipment, parts, materials, and supplies.

Dec. 2—Foreign Trade Number.

An appraisal of the present foreign market for refrigeration and air conditioning, and its future opportunities.

Jan. 6—Air-Conditioning Number.

An analysis of the accomplishments to date in selling air conditioning to the public, with discussions of the industry's problems by leaders in the field.

One-Third of Newark Utility's Customers Own Refrigerators

NEWARK—More than 33⅓% of Public Service Electric & Gas Co.'s 750,000 domestic consumers now have electric refrigerators, according to a survey recently made by the company. Five years ago only one out of seven residential customers in this territory enjoyed this convenience.

Over 250,000 electric refrigerators and more than 20,000 gas refrigerators are now in use among Public Service customers.

During the first seven months of this year, Public Service Electric & Gas Co. sold nearly 5,700 refrigerators, breaking all previous company records for this period.

Demand for all kinds of electric appliances has shown a sharp upward trend in Public Service territory this year, company officials report, dollar volume for the first eight months increasing 42% over that of last year.

S-W Refrigeration Unit Sales Up 88% Over '35

CHICAGO—Unit refrigerator sales of Stewart-Warner Corp. for the nine months ended Sept. 30, 1936, showed an 88% increase over the same period in 1935, according to Frank A. Hiter, vice president and general sales manager.

Radio sales for this period were 209% larger than those made during the same period in 1935, he declared.

Clearer Wording Of Guarantees Asked by NRFA

Furniture Men Demand Terms be Clarified in Fairness to Dealer

CHICAGO — Attacking what it terms "absurd refrigerator guarantees," *National Furniture Review*, official publication of the National Retail Furniture Association, demands, in an article in its current issue, that refrigerator manufacturers phrase guarantees in language which both the dealer and the customer can easily understand.

"In fairness to the retailer, the producer and distributor should give the dealer (as well as the consumer) a letter which not only sets forth the terms of the warranty that the retailer is to offer his customer on behalf of the manufacturer, but also a definite agreement, on the part of the manufacturer, to operate under the warranty, and to protect the retailer from any and all claims, costs, and so forth," the publication states.

"As long as the electric refrigerator is in a stage of rather rapid change in design, the retailer has a right to demand at least a little consideration from the manufacturer."

Last June, National Retail Furniture Association, after surveying its members on the question of term guarantees and protection plans, sent refrigerator manufacturers the following point-by-point conclusions:

1. While the "standard warranty" of one year on all parts is not without merit, the way in which this warranty is coupled up with advertising to the consumer on "protection plans" running from five to 10 years, misleads the consumer.

2. Not only is the consumer misled as to the details of protection coverage for a term period; she presses the retailer for a pay plan that will cover the life of the warranty. In other words, the effect of the warranty has been to force extension of the time payment stretch, beyond sound time payment limits.

3. The technical verbiage on some of the warranty certificates has the effect of throwing an added burden of service upon the retailer for which he gets no compensation, either from the consumer or from the manufacturer who flouts the warranty.

If the consumer buys a refrigerator from an established retailer from whom she and her family have been making purchases over a period of years, that consumer looks to the established retailer, not to the manufacturer, for service. And regardless of cost of satisfaction, the merchant must live up to his promise.

4. The number of manufacturers of refrigerators is on the increase. The greater the number of brands offered for sale, the more uncertain is the consumer that the manufacturer will be in position throughout the life of the warranty to fulfill its terms, thus leaving the established merchant

(Concluded on Page 2, Column 5)

One-Week Appliance Show Sponsored by Rochester Group

ROCHESTER, N. Y.—This city's electrical association sponsored an elaborate electrical show starting Oct. 3 at Edgerton Park, and lasting one week.

Product displays by distributors and manufacturers forme a major portion of the show. Three buildings were set aside to house these commercial exhibits, which included all leading makes of radios, refrigerators, washers, ironers, oil burners, ranges, and various minor appliances.

Supplementing these displays were exhibits arranged by Frank B. Beaucaire, head of Beaucaire, Inc., Leonard distributor, who was head of the feature division for the show.

Outstanding among the numerous exhibits and demonstrations scheduled by Mr. Beaucaire were electrical house of magic, musical fountain, police and fire radio systems, manufactured lightning showing 660,000 volts traveling through eight feet of space, an electric light that can be blown out, and a theft-proof cashier's cage.

Competitive Plan Raises Floor Lead Sales To 65% of Total for Wells Music Co.

DENVER—Floor leads account for 65% of refrigerator sales for the Charles E. Wells Music Co. here, under a competitive plan for salesmen introduced by Herb Names, salesmanager.

Customers, who through national advertising have been educated in the meaning of freezing units, refrigerants, automatic defrosters, etc., find at the Music company salesmen who are trained to understand their product, and who do not talk down to their prospects.

"I have seen people walk out of stores, almost insulted because the dealer didn't have the foresight to put only his best salesmen on the floor, or to educate his men in correct methods of sales procedure," says Mr. Names.

The department employs six salesmen. Each day four of these men work on the outside, and two in the store. The most coveted position is to be the "number one man" on the floor for the day.

To determine who shall have this position, and what he shall do, Mr. Names has worked out the following plan: two floor positions are set up each day, making a total of 12 places to fill each week. These are divided into six "number one," and six "number two," places. The "number one" man is the salesman who greets every customer entering the department, unless he is busy, in which case the "number two" man receives his chance for an interview.

First and second high men for the month each receive two "number one" positions per week for a month. The next two salesmen also are allowed to work on the floor two days a week each, one day in first position, and another as "number two man."

When these positions are filled, there remain only four second positions to fill, which are assigned to the men with low sales volumes. Every man therefore has two days on the floor, each week, and a competitive incentive is created for salesmen.

Not only has the plan increased the volume of refrigerator sales during the two months that it has been in effect, but it has also, according to Mr. Names, made a greater number of shoppers turn into buyers. Another result of the plan is that the competition between men has resulted in the store's having a very high caliber sales force.

"We hold the belief that the salesmen are the backbone of every organization. We strive to hire only the highest type of men. Years of effort have been spent to make our organization what it is today, and the sales force is entitled to the greatest portion of the credit," says Mr. Names.

Community Storage Plants Are Proving Popular in Idaho

BOISE, Idaho.—Community refrigeration has gained a substantial foothold in Idaho, and its popularity is rapidly increasing in several areas of this state.

This information resulted from a survey recently conducted by combined forces of University of Idaho's department of agricultural engineering and the Idaho committee on the relation of electricity to agriculture.

Results of the survey show that there are 24 community refrigeration enterprises in Idaho at the present time, the average plant serving a radius of 15 miles. The number of individual storage lockers per plant ranges from 24 to 1,000, the average being 330.

It is estimated that between 8,000 and 10,000 refrigeration lockers are available to Idaho farmers at this time.

Principal produce stored in these plants is meat, butter, cheese, eggs, fruit, vegetables, and seasonal game. Some plants have cold rooms for wholesale storage. One has a commercial storage capacity of 125 to 135 carloads.

According to Hobart Beresford, head of the university's agricultural engineering department, and Jefferson B. Rodgers, research assistant with the electricity-agriculture committee:

"Community refrigeration enterprises are increasing in popularity in Idaho. More of them are being built, particularly in closely settled rural areas served by good roads which make it easy for farmers to get to town even during the bad weather."

The survey revealed that about 48% of the enterprises are privately owned and 52% owned cooperatively.

Small Radios May Be Taken into Canada Under Exemption

(*Concluded from Page 1, Column 3*)

included within the authorized exemption of $100.

A radio, such as an automobile radio or a table model, which could be carried as hand baggage or checked as baggage in a railway train, would be regarded as included in the baggage. Automobile radios installed in cars, or console or other floor models, are not regarded as "baggage," however, and are not eligible for duty-free entry.

Refrigerators are not considered as "baggage," within the meaning of the item, and consequently cannot be brought into the country by returning residents unless the regular duty is paid.

General gains in American imports to Canada as a result of the trade agreement, entered into by the countries last spring, are reported for the second quarter of 1936 in figures just issued. Refrigeration showed a gain of 300% to stand well up on the import list.

Wright & Morgan Take New Posts at Cleveland

COLUMBUS, Ohio — Nelson P. Wright, for 10 years merchandise manager and buyer for the major appliance department of May Co., Cleveland, has resigned from that position to become general manager of the Appliance Distributing Co. here, succeeding B. A. Morgan.

Mr. Morgan returns to Tracy-Wells Co. to do promotional work for this concern and its subsidiary, Arnold Wholesale Corp., Cleveland.

Will It Ever Come to This?

WE'RE TOPS
WE'LL GUARANTEE OURS FOR LIFE!
WE'LL BEAT THAT! OUR GURRANTEE IS FOR 40 YEARS!
WE GUARANTEE OUR REFRIGERATOR 20 YEARS!

National Furniture Review

EH & FA Closes 3 More Contracts With Utilities

WASHINGTON, D. C. — Electric Home & Farm Authority has closed contracts with three more utility companies in which it agrees to cooperate in the financing of electrical appliances sold in their territories.

Companies with whom contracts have been signed are Eastern Nebraska Public Power District, Lincoln, Neb.; Cullman County Electric Membership Corp., Cullman, Ala., Municipal Water & Light Plant, Somerville, Tenn.

G-E Russ Installation Made by Keystone

POTTSVILLE, Pa.—Wm. A. Ginther, local restaurateur, recently equipped his establishment for complete food and beverage service by installing a General Electric-Russ bar refrigeration system.

Mr. Ginther purchased the equipment through Bernie Maseritz, district representative for Keystone Appliances, Inc., at an approximate cost of $4,500.

Equipment consisted of a CM-5A 1-hp. condensing unit; an EC-15 conditioned air evaporator; two Fedders dry expansion evaporators; an F-66 walk-in keg cooler; a 30 gal. surge tank; 12 red and black leather bar stools, and a special Russ bar in which was inserted a B-451 combination coil and bottle box, a sea food table, an oyster bin, and two Jumbo stein washers.

G-E Stabilization Plan Announced

SCHENECTADY — A stabilization plan whereby earnings of employes automatically increase as the cost of living rises has been announced by President Gerard Swope of General Electric Co.

Adjustments are to be made to conform with the index for the cost of living figures as published by the Department of Labor.

On that basis, effective Oct. 1, a cost of living adjustment of 2% is being added to the earnings on the first $3,000 per year of all those receiving not exceeding $4,000 per year.

The plan provides that if the cost of living goes up, corresponding increases will be made in employe earnings, up to a maximum of 10% above the level when the plan was adopted, and when this point is reached the company will again give consideration to the question.

If the cost of living decreases, adjustment will be made downward, but will not go below the standard of employe earnings in effect when the plan was adopted.

August Refrigerator Taxes Up $434,000 over 1935

WASHINGTON, D. C. — Internal revenue collections for August on mechanical refrigerators totaled $1,063,873.10, an increase of $433,951.46 over collections for the same month last year, according to reports from the U. S. Treasury Department.

August collections for 1935 were $629,921.64.

NRFA Members Say Guarantees Should Be Limited to Year

(*Concluded from Page 1, Column 5*)

with the other alternative to make good, on his own responsibility.

5. It is the express desire of members . . . that all around guarantees be limited to a period of one year.

A number of manufacturers replied immediately to association protests, *National Furniture Review* says. Most of them indicated that the ambiguous phraseology resulted from the pressure of competition. One or two of the principal offenders evaded the basic issues entirely.

Manufacturers of hermetically sealed units said they believe the warranty can and should run as long as five years. A one-year all over guarantee is not satisfactory, they assert, when three-year terms are common in selling refrigerators.

"Most manufacturers," the *Review* explains, "fail to realize that when a family buys a refrigerator from a furniture store or from a department store for that matter, it is not only sold on the box, but also on the store's service policy.

"Mrs. Jones is not buying the box from the manufacturer. She is buying it from an established retailer in whom she has confidence, and knows she'll get service on it from the seller. She no doubt has purchased many other items over a period of years from that same store and expects to purchase many other items from that same store long after the box is worn out."

Consequently, when a service guarantee comes along with the box, she draws the general conclusion that, as long as she is paying for the box, she is going to get free service as long as she is a customer of that store, the publication states.

"Retailers have found through years of experience," concludes the *Review*, "that it is one thing to 'borax' a price but it is another thing to try to renege on a service promise. In fact, the burden of servicing merchandise . . . even though no promises have been given at time of sale, is at the very least a costly proposition without the flaunting of five or 10-year warranties to the public through national advertising."

S-W Distributors Will See '37 Models Oct. 29

CHICAGO — Stewart-Warner distributors, field men, and key dealers from all parts of the country will preview the company's 1937 line of household electric refrigerators during the annual convention, to be held Oct. 29 and 30 in the Drake hotel here.

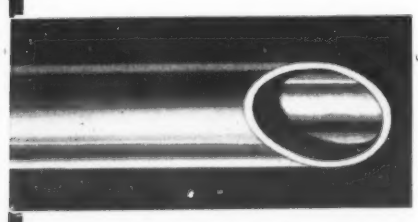
Finance plans for next year, advertising, sales, and merchandising programs, also will be outlined at the convention.

In addition to the regular convention, there will be an exhibition hall in which the sales features of Stewart-Warner products will be demonstrated, the construction features of cabinets and units displayed, and the source of the more important parts and materials shown.

Dealers and retail salesmen are invited to attend the convention, Stewart-Warner executives believing that the program will carry as much interest for them as for distributors and field men.

WOLVERINE
COPPER TUBING
for
REFRIGERATION AND
AIR CONDITIONING

● For this type of work Wolverine Copper Tubing has certain definite characteristics that make it indispensible to the conscientious manufacturer and service man alike. For the manufacturer, a better product at lower cost. For the service man, a neater job in less time.



Made Clean. Wolverine refrigeration tubing is made of 99.9% pure electrolytic copper, annealed to the exact specified softness in a deoxidized and dehydrated atmosphere. A clean, mirror-smooth inside surface is uniform in every coil.

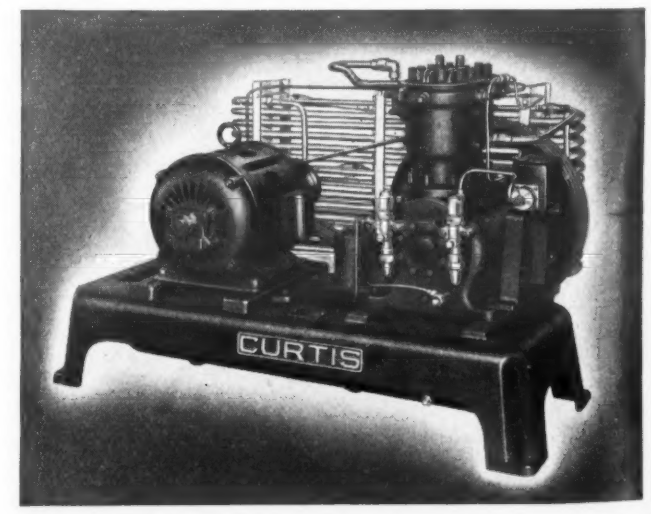
Kept Clean. The famous Wolverine Solder Seal keeps the interior as clean as the day it was made. In addition, each coil is wrapped in heavy crepe paper to insure cleanliness and labeled to facilitate handling.

Wolverine Wrapped Coils. Wolverine refrigeration tubing is all made to A.S.T.M. Specifications B68-33. It may be had in a complete range of sizes in either random or exact length coils. Plain or electro tin-plated. Your jobber has it.

Wolverine Tubing for Air Conditioning. Copper tubing for air conditioning may be had in either hard or soft temper. Hard temper tubing is furnished in straight 20-foot lengths only. Soft temper tubing is coiled in 30, 45 and 60-foot lengths. Types K, L, and M are made to A.S.T.M. and Federal specifications. Type K is tested and listed under the Re-examination Service of the Underwriters Laboratories.

WOLVERINE TUBE CO.
1411 CENTRAL AVENUE DETROIT, MICHIGAN
CABLE ADDRESS "ROBNS—DETROIT"

AGE ISN'T ALL
. . . but Experience
is mighty important



BEHIND every Curtis condensing unit stands thirteen years of continuous development, 42 years of experience in making fine compressors, and an engineering and manufacturing background that dates back 82 years to 1854.

Age alone isn't enough, but Curtis' *Experience* means a great deal today. It means that Curtis condensing units and refrigerating equipment are carefully and soundly designed—that Curtis standards are the highest in the industry.

Investigate the performance of Curtis products, and you'll see that experience counts a lot.

CURTIS
CURTIS REFRIGERATING MACHINE CO.
Division of Curtis Manufacturing Co.
1912 Kienlen Avenue - - - - Saint Louis, Missouri

Consideration of Public Relations Would Lessen Other Business Worries, McGivena Believes

By L. E. McGivena, New York News*

Bill Jones is a big business man who used to confine his worrying to his business. The worrying seemed to help the business, and didn't seem to hurt Bill.

But about 1927, like many another big business man, Bill extended his field of worry, took on extra-curricular courses.

For three years, off and on, he worried about the stock market, the price of money, the true function of the Federal Reserve, and the index of general business. By the end of 1929, you may remember, he had something real to worry about.

Somewhere about this time, Bill became a chronic worrier—took his eye off the ball. The ball is *his business,* which he is expected and paid to worry about.

During 1930 Bill worried about a decline in business, and whether the bank would call his collateral loan.

He trimmed sail in his company, reduced inventories and stopped buying, limited operations, chopped the payrolls, cut expenses—and helped general business to decline. And sure enough, the bank called his loan!

In 1931, he worried whether things would get worse before they got better—and they did!

In 1932 he added unemployment, relief, Communism and Fascism to his worry list; in 1933, the state of the banks, the new Administration; and subsequently he took on the NRA, the AAA, the SEC, the banking regulations, the social security acts, taxes, and the PWA.

Worrying Has Gone Vocal

This past year he has been worrying about politics—and which party will win the coming election. If the wrong party wins, according to Bill, the country might just as well fold up and go back to the Indians.

Bill forgets that there have been crises in this country before, crises besides which current conditions are as so much child's play—yet, somehow the country endured.

Regardless of who was in Washington, the populace kept right on earning a living, raising kids, wearing things out, and going out on Saturday nights.

And regardless of who gets elected this time, the country is going to keep right on going as usual. It takes more than one election to ruin or save this country.

The worst phase of this political worrying is that Bill has gone vocal, bellyached his views from press and platform, bored even his business associates and best friends. Bill would never think of saying anything that would offend bridge players, left-handed golfers, platinum blondes, trust company vice presidents, or members of Plumbers Helpers Local No. 96.

Bill knows that giving offence to groups of people, large or small, is not a smart thing to do and is bad for his business.

But Bill has no compunction or reserve in assaulting the half of his fellow citizens (according to the more reliable straw votes).

Bill thinks of himself as a sterling patriot crusading in a sacred cause; but much of the time he is only an amateur politician giving many potential customers a pain in the neck.

Now all this assorted and long-drawn out worrying hasn't done any good to Bill's disposition, digestion, blood pressure—or Bill's business.

The only real worry any business man should have is his Customers—and that's enough of a worry to engage the full time and capacity of any all-around comprehensive worrier.

Curiously enough, within the last year, Bill has begun to worry about public relations—and it's about time! This latest worry of Bill's may be an indication that he is at least looking for the ball again, if he hasn't already got his eye on it.

Public Should Come First

We have heard much in recent years about the attitude of Business, with a capital B. Business is opposed to this and that, does not feel optimistic about the present or the future.

Conventions of business men work themselves up into thick lathers about the state of the nation and whatnot.

But after all, what Business thinks or feels is relatively unimportant in comparison to what the public thinks of feels. Public sentiment all through the depression has been more optimistic than business sentiment.

Anybody who made a real effort to sell consumption goods the past few years hasn't fared so badly. And in 1932 we had that amazing phenomenon of stockless stores, and people able to buy and unable to find what they wanted.

Heretical as it may seem in some quarters, Business *does not* support this country. This country supports Business. The public is the raw material of any business, whether you make lipstick or locomotives.

If the public is cheerful and unperturbed, women dress up more and people go places on railroads, and you sell lipstick and new locomotives. If the public morale is low, your sales go low, too.

No good salesman tries to sell a man without first getting some inkling about his likes and dislikes, some picture of his mind.

If an automobile salesman finds out that Mr. Smith thinks nobody should be allowed to drive more than 25 miles an hour, and then insists on emphasizing to Mr. Smith the speed of the car he is selling, you'd say he was a dumb salesman.

Yet Business has been just as dumb in blindly and stubbornly ignoring the public mind for the past three years, ruthlessly opposing many pet conceptions of the general public, advocating things the public thinks or feels is not to its benefit or welfare.

Just look at the record:

Business "Hates" Listed

Business has been bitterly and fanatically opposed to the President; yet the President, whether he has done a good job or not, has been the idol of the majority of the American people and held their fanatical devotion.

Business opposed the NRA, and perhaps was justified on many counts, yet to the man on the street the NRA meant two things: minimum wages and shorter hours of work. Would you be cordial to any group which tried to cut your salary or make you spend more time in the office?

Business fought the AAA, largely because of the processing taxes; yet to most farmers the AAA meant simply more stable crop prices and some quick cash to spend.

Business opposes the SEC—which to the man in the street, means simply a provision that makes his investments less hazardous.

Business opposed the social security acts and bank insurance measures which the public interpretes as provisions for old age and greater security for its savings.

True, the public may not be right in its understanding or interpretation of government moves and legislation—but right or wrong, it is the only public we have, and if you go around the world shopping for public, you realize that we have an amazingly good one, still the world's best customer.

Press Also Out of Touch

It must also be observed with regret that the American press, for the most part, has been as out of touch with public thinking and sentiment as has Business.

Consequently, we have had the amazing paradoxes of many publications carrying alarm on their front pages, and advertising inside.

If John Public took his paper seriously, he would be in no frame of mind to rush downtown and buy another pair of shoes or a Frigidaire. But John is pretty smart, a lot smarter than many business men and publishers think he is.

When he recognizes that the paper's policy is not in accord with his ideas, he merely skips the policy stories and turns the page to see what little Orphan Annie is doing today.

He doesn't even get mad or indignant any more. Because a newspaper is a reading habit hard to break, and because newspapers offer a variety of services, their circulations and value as advertising media are largely unimpaired. But how few products have such advantages?

Is it any wonder then that if and when Business solicits support and confirmation from the public that the public turns a cold shoulder and deaf ear? Is it any wonder that, given a choice, the public buys from the firms it likes and shuns those it dislikes?

It has been impressive to hear speakers on public relations who have preceded me stress the the fact that they had no miracles to offer, no universal panaceas, no substitutes for advertising effort—or common sense.

Such candor is refreshing and wholesome, but may not have a high sales value just now in some quarters. Because too many business men are looking for Reichenbachs, for magicians and showmen.

They want faces lifted, hair restored, fresh good will, and a shrine in the hearts of the people, f.o.b. tomorrow; and obviously they won't get what they want.

Improving Public Relations

Public relations counsel is no panacea, no mechanical appliance, something to be devised or bought like a new piece of equipment. Good relations with the public are like a stand of trees. They grow, and grow slowly.

A good first step is to get acquainted with the public. Many business men learn with surprise that the public is not their immediate neighbors, or the other members of their golf club.

No public relations counsel can supply this acquaintance—but a lot of business men can learn to know the boys in the factory with a great deal of profit to themselves.

And a good second step is to size up and appraise the moral content and character of a firm.

Nobody can endear to the public a patent monopoly, or an exclusive source of raw material, an efficient production process, a large undivided cash surplus, or a long dull history.

Find out how a firm gets along with its own employes; look into its labor relations—as a good first index of its salability as an institution to the general public. Strikes hurt sales. Discontented and disgruntled employes hurt sales.

Watch Public's Reaction

Find out the thing a company does that rubs the public the wrong way. Department store proprietors know that discourteous and careless delivery men hurt their store and their sales.

Milk companies know that milkmen who clatter and bang, or whistle, hurt sales. Engineers who couple cars with a smash, or crabbed conductors, make customers for some other railroad.

Inefficient salespeople, fresh switchboard operators, and glacial secretaries send customers somewhere else. Snooty doormen or aloof paying tellers drive accounts away from banks.

Unintelligent form letters, sent out by uninterested and underpaid girls, bring neither laurels no larger cash balances.

Litigation never pays; ask any good lawyer. Scandal never pays; ask the man who's had one.

Opposition to welfare legislation never pays. The firm responsible for the Supreme Court decision dissolving the NRA is out of business today, simply because the public regarded the action as inimical to its best interests.

The laundry man who broke the legal back of the minimum wage law for women in New York State last year is looking for a job today. Women patronize laundries as well as work in them.

There are various important services that a skilled public relations counsel who really knows the public can do for a firm. There is a story, and it is probably nothing but a story, about the late Ivy Lee.

He had taken a large fee from a certain firm for his services. At the end of the year, one of the directors demanded, rather indignantly, what he had done to earn the money.

And Lee is reported to have said, "I kept your President from making any speeches for a year, didn't I?" The director voted to give Lee another year's contract!

Institutional Advertising Helps

There is also a wide open field for better public relations through institutional advertising. Tell people your story or your side of a story in paid space; and if you tell it well, they will respect your message and appreciate your openness and frankness.

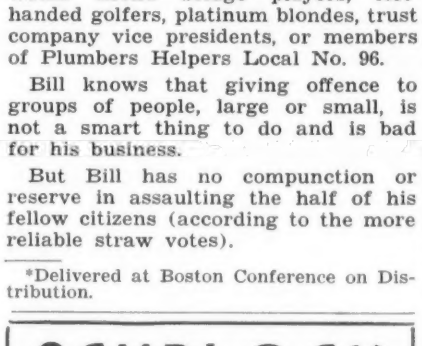
All over the country the past three years there have been industries smarting under what they felt was unfair legislation.

Has it never occurred to them that a few, frank, well-written, page advertisements in newspapers in Washington and a few large cities might do it for them—with an administration in power that is more sensitive of and attentive to public opinion than any other administration ever in office?

In conclusion, consider this possibility: General business has improved steadily for three years despite the fact that business men for the most part have been at odds with the public. Now if Business and the public should get together, just think what might happen to Business!

*Delivered at Boston Conference on Distribution.

SCURLOCK
KONTANERETTE KITS
For All Refrigerators
"A flip of the finger and the Kontaner is before you."
REFRIGERATORS ARE CALLING FOR HELP!
Realizing that this is the season when refrigerator sales slow up, we suggest KONTANERETTE KITS as a means of promoting this season. One large refrigerator manufacturer has added these units to his Deluxe Models.—SALES are INCREASING.



Retails $2.75

Use Kontanerette Kits
More Sales, Greater Profits

Women recognize the
Value of Refrigerator Space

30% space saving over use of old fashioned round jars

SCURLOCK KONTANERETTE CORP.
1477 Mdse. Mart - Chicago

Makers of quality household appliances—electric refrigerators, washers, ironers, and air conditioners—specify Delco Motors as standard equipment because Delco Motors conform to their own high standards of manufacture. Dealers prefer to sell Delco-powered appliances because Delco Motors insure dependable service and satisfied customers. Buyers choose Delco-equipped products because they have learned that the name "Delco" means quiet operation, economy of upkeep and long life. Delco Motors are a profitable investment for manufacturer, dealer and buyer alike.
DELCO PRODUCTS CORPORATION
DAYTON, OHIO
In Canada: McKinnon Industries, Ltd., St. Catharines, Ont.
Delco
MOTORS

Harrison Points Out Alternatives Facing America in Foreign Trade Relationships

By L. S. Harrison*
Assistant to the President, International Business Machines Corp.

From an economic standpoint, distribution, both in its structure and its policies, stands squarely in the path of the ability of industry fully to avail itself of the opportunities ahead of us.

Our approach, however, must be toward the problems of distribution as they affect the movement of goods and services both within the borders of our country and beyond its borders.

Our national prosperity and welfare are, as has been too painfully demonstrated, irrevocably tied up with the rest of the world. Science and invention have so contracted geographical distances that international relationships are now definitely interlocked.

The United States cannot live by itself alone—it is not living by itself now—and never has done so.

We have a tremendously costly stake in our foreign relationships. By "We," I mean the consuming public—our commercial, industrial, mining, and agricultural employes and workers, as well as stockholders and management.

Our citizens, as well as our government, have underwritten our present position in world trade to the tune of over 12 billion, 5 hundred million dollars of foreign investments, represented to a large extent by stocks and bonds distributed far and wide in this country among banks, insurance companies, universities and individual holders. In addition, foreign governments owe this government 11 billion dollars on account of war debts.

Two Choices Open to Country

Prior to 1929, we were able to maintain our traditional excess of exports over imports by making it possible for foreign countries to pay their bills with money we loaned to them.

We have maintained the excess since, but at the cost of trade volume which in 1928, regardless of whom the trade balance favored, supported 2,400,000 American families.

The stark reality today is that we have projected a credit balance abroad of 23 billion dollars. How are we going to collect it?

In June of this year, the combined gold reserve of all countries of the world was a little less than 21½ billion of dollars, of which aproximately half was held by the United States.

Most of the other nations have hardly enough gold left to serve as a base for their currencies.

These are the bare facts which leave us, as a nation, only two choices—either the United States must abandon its position as a creditor nation, cancelling claims to a major part of its loans and investments, or—

It must permit freer access to its markets for foreign goods.

The Monroe Doctrine in 1936

It must be clear to all thinking people that our institutions, citizens and taxpayers, cannot stand the liquidation of this indebtedness themselves, without serious effect on business convalescence.

Knowing, as we do, that the effect of such liquidation will surely infiltrate the welfare of our people, the interests of this country demand the formulation of a foreign policy which will foster, increase, and build up our foreign trade.

The responsibility for such a policy cannot rest alone in the government of our country, but should be shared by its business and financial leaders.

It calls on merchants, bankers, industrialists and every responsible agency, if not for support, at least for the encouragement of an honest understanding on the part of the public that this question is one where real patriotism demands the cooperation of all, and intelligent treatment without partisanship.

The formulation of this policy is truly civil service, in its largest sense, requiring expert economic knowledge and unbiased judgment.

The isolationist calls this kind of talk "un-American," but he still takes his coffee in the morning, puts on his rubbers when it rains, wears a silk necktie, and reads protectionist editorials on newsprint from Canadian pulp.

Both Buying and Selling Needed

Our abundance of national resources has provided surpluses, the disposal of which has resulted in artificial policies in which no school of thought really believes—policies which either have been made or thought necessary only because of the lack of an adequate avenue of export for our surplus goods.

In the seven year period between 1927 and 1933, the United States exported to foreign countries, of its total production:

Cotton	56%
Tobacco	38%
Wheat	32%
Copper	43%
Industrial machinery	17%
Typewriters	40%
Office appliances	28%

This is but a small section of the list, which is eloquent testimony of how much we depend on our customers abroad. It represents a vital and essential sector of domestic business recovery.

These figures being what they are, it does not require difficult reasoning to prove that such foreign sale of our surplus agricultural and mining products creates a substantial demand at home for our own manufactured goods.

American mass production technique also being what it is, there are surpluses of our own manufactured goods which cannot be ignored. Much of this surplus over domestic demand, has, at times, constituted the difference between profit and loss in certain industries.

A large proportion of American manufactured products having the benefit of American mass production efficiency is fully competitive, if not discriminated against, in foreign markets. We can and will compete in foreign markets on an open, self-reliant basis of quality, value and price.

But if anything like prosperity is to be achieved and sustained, it is imperative that the United States find broader markets beyond her boundaries, or undergo continuous adjustment, limitation and artificial control of her productive capacity.

We Need Foreign Products

On the other hand, to continue factory operations in our own industries, this country must have many absolutely essential materials which cannot be obtained here, either in sufficient volume, or at all.

Rubber, tin, nickel, manganese, aluminum, tungsten, nitrate, drugs and medicines—if we did not have these things and many others from foreign countries, there would be little need for any conference on distribution.

Our automobiles, steel products, household goods, electric lights, telephones, radios, fountain pens, and a host of American manufactured commodities which contribute so much to our standard of living, would in cost and quantity be out of reach of the majority of our people.

How much foreign products, not of choice but of necessity, permeate our life, comfort, and daily activity, can be realized in part if each one of us will consider only what he eats, what he wears, the things in his own home that he uses or possesses, and the materials of which they are made.

Just two more facts need to be emphasized to demonstrate, finally, the basic importance of this to our happiness and prosperity.

In 1929 our foreign trade, both export and import, was 9 billion, 640 million dollars. In 1935 it was 4 billion, 330 million dollars, a loss of 5 billion dollars to American manufacturers, merchants, transportation, mining, and agriculture.

Again—of the 48 million, 800 thousand people gainfully employed, as shown by the United Census of 1930, between 4 and 5 million, or about 10%, were dependent on jobs created by exports and imports.

This means that, considering its indirect effect, 11 millions of our population found employment through the contributions of foreign trade.

To put back into employment the substantial portion of these people whom the shrinkage of foreign trade has robbed of their livelihood is an obligation which can be satisfied only by the support of those economic policies that are not born solely of narrow self-interest, but which tend to serve the greatest good of all classes of producers and consumers alike.

No one advocates opening our gates to either the labor or the products of peonage—but there is such a thing as subsidizing inefficiency, and progressive cost of reduction methods through prohibitive tariffs on imports.

Trade Volume Important

I do not like the words "favorable" or "unfavorable" in connection with foreign trade balances.

If a so-called "favorable" trade balance policy will continue to hold back the *volume* of business, in *both directions*, as it will under present conditions, and freeze our foreign investments and loans, I should call that balance "unfavorable."

While it is clear that a so-called "unfavorable" trade balance will help quickly to liquidate our vast credit position, the main objective of our foreign trade policy should be to so accept and apply the unfavorable balance idea as to accelerate the total trade volume in *both directions* toward its return to what it once was—and more.

This means increased prosperity abroad. But what is that to us? Only the melting of frozen war debts and bond issues, relief to our internal debt structure, and, what is the greatest of all, a practical contribution to peace on earth and good will toward men.

This whole question of foreign trade and a fair distribution of international prosperity is at the roots of depreciated currencies, the race of armaments, war and upheavals.

Political philosophies throughout the earth derive their character solely from economic stress. But people of all nations still must eat, live, work and transact business. Goods are still being manufactured, the soil is still being tilled, contracts are still made and respected.

But beyond that, the laws of nature and human rights and economy find their own solutions and compensations—not to please you or me or any special group, community, class or nation, but to equate themselves and find equilibrium.

Artificial barriers serve only to increase the impact of forces which cannot eventually be confined. These obstacles must be dissolved. Whether the dissolution is to be violent and destructive, or peaceful and constructive depends on human intelligence alone.

Task Is Not Hopeless

The task of relieving international pressure is a heavy one, but not hopeless by any means. Constructive steps are under way, both by government and private agencies.

Valuable effort is being put forth to develop cooperation and understanding between business men throughout the world which is attaining increased significance.

The work of the International Chamber of Commerce is outstanding in this respect. Eliot Wadsworth, president of the Boston Chamber of Commerce and vice president of the International Chamber, is one of the most important men carrying on this work.

Last year, through the combined efforts of Thomas J. Watson of New York, president of the American Section of the International Chamber, and of Nicholas Murray Buttler, the Carnegie Foundation for International Peace and the International Chamber of Commerce joined forces in sponsoring a committee of experts from leading nations in a world economic survey which is now under way, and is directed toward establishing a factual foundation for international action toward the stabilization of currencies, opening of trade barriers, and the rational limitation of armaments.

Our country has instituted a reciprocal trade agreement policy which is scientific and flexible, tending to remove the causes of foreign retaliation, embargoes, and exchange restrictions, and to revive for American enterprise its natural markets abroad, as well as reasonably to protect our own industrial and agricultural interests.

The trade agreement program of the United States government is, today, a practical and progressive method of furthering our foreign trade.

Designed on an open-handed, thoroughly mutual basis, it serves, without dislocation of domestic industry, to prevent discrimination against us in the application of tariffs and quotas, and insures uniform concessions and similar treatment on both sides.

Business Men's Support Needed

This policy provides no real basis for cleavage of opinion. It serves no school of thought with respect to free trade or protectionist philosophies. It is based on informed compromise, and is inspired by the same old Yankee Clipper instincts which insisted on full cargoes over and back again.

There is a great and profitable opportunity for the organization of facilities at our ports, in warehousing, financing, and forwarding through the agency of free zones for foreign trade. This is one practical, direct trading aid which has already received legislative recognition.

All of these efforts, however, need support. There is still a tremendous job to be done. The important thing now is to focus the attention of business men upon this problem, to induce them to study it and to further the accurate popular understanding of a question which is greatly distorted and misunderstood.

Our country can well afford to take the leadership in this movement. When that leadership is proved, we will have forged a powerful link in the chain of world friendship in which armaments will yield to common sense.

*Address Delivered at Boston Conference on Retail Distribution.

BRUNNER
Send for the New
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Eight Models of Compressors
Forty-one Models of Highsides
from 1/6 H. P. to 15 H. P.
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See Insulite Products Displayed at the National Association of Ice Industries Convention at The Waldorf-Astoria Hotel, New York City, October, 20 to 23 . . . INSULITE BOOTH NUMBER 38

★

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Ludwig Fish Company, Michigan City, Indiana
New Orleans Brewery, New Orleans, Louisiana
Jamison Packing Company, Corona, California
Peoples Ice & Cold Storage Co., Roanoke, Virginia
Economy Ice Company, Chicago, Illinois
Croft Brewing Company, Boston, Massachusetts
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•

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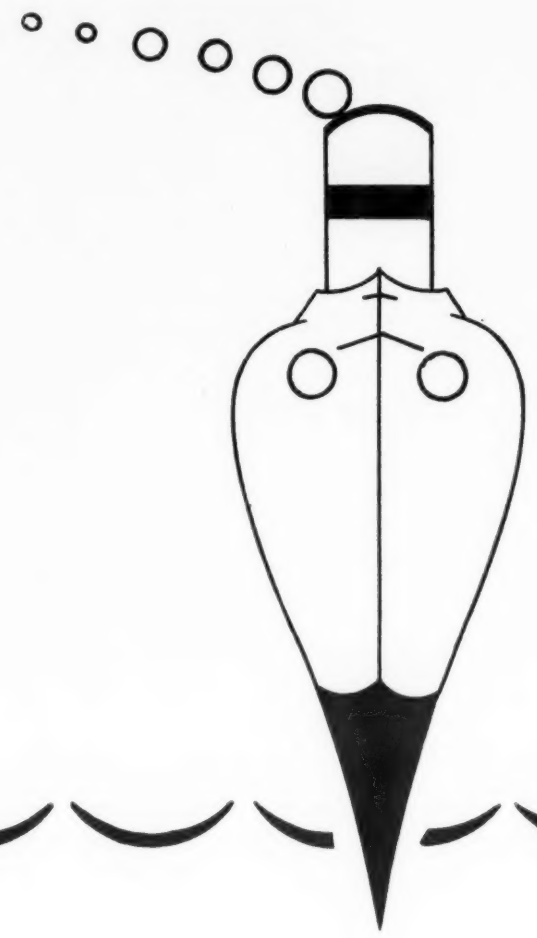


COMPRESSORS GO ABROAD

Large markets await refrigeration and air conditioning in foreign fields.

Export business as it exists today is but an indication of what the future holds for refrigeration equipment of all kinds.

The fact that annual export volume of electric refrigeration equipment has passed the ten million dollar mark and is rapidly growing is significant, but there are prospects of a much larger volume soon to come.

Foreign markets are just beginning to open up. In many lands where refrigeration has been unknown throughout the centuries, people are now becoming refrigeration conscious. Mechanical methods are taking hold.

In America electric refrigeration to a large extent found its market in the replacement of other methods. Not so abroad. There the leap is made from *no* refrigeration to the most modern methods.

Union of South Africa is largest importer of electric refrigerators. New Zealand tripled its imports last year. Refrigeration business in Palestine is booming. The Chinese are becoming acquainted with frozen desserts and *cold* refreshments.

Foreign merchants (for many of whom Dun & Bradstreet would have to devise new and bigger symbols to accurately indicate their financial standing) look to American manufacturers as their source of supply. Today these merchants who are accustomed to thinking in *big* figures are making inquiries, they are looking for information, for *facts*.

They are searching for advantageous connections in the refrigeration field—domestic, commercial, air conditioning, parts, and supplies. They want information on the product, but even *more important*—they want *facts* regarding the company *back of the product*. Their banking connections are okeh, how are yours?

The Foreign Trade Number of the News, December 2, will be edited especially for this market. It will have world-wide circulation. It offers you the opportunity of presenting a potent advertising message to a highly responsive market. We suggest that you send in your space reservation now.

●

FOREIGN TRADE
NUMBER
DECEMBER 2, 1936

AIR CONDITIONING AND
REFRIGERATION NEWS

Business News Publishing Co., 5229 Cass Avenue, Detroit, Michigan

Around the World

With George F. Taubeneck

Continued from last week, the current instalment of the editor's "World Series" delves further into the complex situation which exists between French refrigeration manufacturers and French importers of American refrigeration equipment. In addition to his interviews with the leading factors in the French industry, the editor had access to the private files of several distributors, from which some of this information was gleaned.

This is the 42nd consecutive week in which this survey of foreign markets for refrigeration, air conditioning, and home appliances has appeared in the NEWS. To gather the information, the editor visited 33 countries and traveled 36,000 miles during the first seven months of this year.

More on the Quota

While independent French manufacturers and members of the Nema French organization were engaged in their efforts to arrive, with Syndicate manufacturers, at a more equitable arrangement regarding the quota, the *Journal Officiel* reported, in its Dec. 1 issue, that for 1936 the quota would be a quarterly one, with the 1934 imports as its basis.

(Setting 1934 imports as the basis, however, did not mean that the quota would be equal to it, our informants report. According to them, the basis constitutes a mere reference figure, to be used in establishing the actual quota.)

Quota figures for the first quarter of 1936, announced at the end of December, were set at 59,850 kgs., for household refrigerators, and 54,700 kgs., for commercial equipment. It was also announced that these figures might be increased by 300%, at the maximum.

Shortly afterward, however, the figures for commercial equipment were altered, the Ministry of Commerce informing the CIM, administrative agency, that the basis for them would be the amount that had been imported during the first five months of 1935, instead of the 1934 imports.

Quota for the first quarter of 1936, for all countries, finally set by the Ministry, was 239,600 kgs., for household refrigerators, and 228,800 kgs., for commercial equipment. This was about four times the figures established as the quota on Dec. 31, 1935.

Basing its action on information and instructions received from the Ministry, the two quota administration committees arranged for imports from U. S. manufacturers as follows:

Household:

The quota would be 63% of what was imported in 1934 first quarter; of this 15% would be taken off to take care of new importers; if this reserve is not fully taken the balance is returnable to old importers on a prorata basis.

On this basis, individual licenses were granted for about 53% (63 x .85) of the quantities imported in the first quarter of 1934.

Commercial:

Taking the quantity imported in the first 5 months of 1935 this was divided by 5 and multiplied by 12, to obtain a yearly basis; the result was divided by 4 to get a quarter. The gross figure so obtained is reduced by 20% to accommodate new importers and licenses were issued to old importers on this basis. Anything that may be left of the 20% reserve is returnable to the old importers on a prorata basis.

In the *Journal Officiel* of March 8, appeared a notice fixing as a basis for household units the imports for the first five months of 1935. This meant that the 1936 imports would be governed by imports made in the first five months of 1935 (see Table 1).

During this period, negotiations were still being carried on between the Chambre Syndicale and the French non-syndicated enterprises and Nema members, with a view to having the quota restrictions changed.

Without waiting for the result of these discussions, however, the Chamber of Deputies passed the decree on February 18, without deliberation, and the Senate took similar action on March 15. The decree thus became law, at least until the end of the year.

What puzzles those who were seeking easement of the quota is that their deliberations were ignored by both Chamber and Senate. Ordinarily, the fact that joint deliberations are being held on any important subject is sufficient to delay legal action, at least temporarily. Government officials usually let individuals exhaust all ways and means of arriving at agreement before they step in. This case, however, was one important exception.

* * *

The French Syndicate

On February 24, the French Nema committee received a notice from the French syndicate, indicating that its members were not opposed to collaboration between French manufacturers and the importers, but it would like to study the Nema members' situation in detail.

Meanwhile, however, the French syndicate, Nema members claim, caused the government to embarrass the non-syndicated industries and foreign importers by scaling down the originally agreed 1934 quota to approximately half, making hazardous any further movement of stocks by French organization, and this at a seasonal peak.

This posed still another perplexing problem for the non-syndicated and French companies, who had already found the going very hard, from a sales standpoint, because of the inherent sales resistance and the high French protective tariff.

About the only course open to them, it appeared, was to request the French government to withdraw, or at least soften, the so-called "protective measures," until French Syndicate and French Nema members had exhausted all possibilities of organizing market in preference to maintenance of quota impediment.

This, it appeared, was particularly valid, especially since the fact has long been recognized that the so-called "French industry" proper has production facilities incapable of satisfying more than one-fifth of the domestic refrigerator market, and about half of the commercial and industrial refrigerator market, to say nothing of air conditioning.

French industries dependent for their livelihood on the growth of French Nema committee, protested against this "arbitrary, isolated, and unauthorized" action on the part of the French Syndicate.

In the denial, the following facts were given regarding the Syndicate:

It was organized in 1933, pursuant to and by virtue of an ancient law entitled "Law regarding the establishment of professional syndicates." Article 3 of this law provides that "professional syndicates have for their exclusive purpose the study and defense of economic, industrial, commercial, and agricultural interests."

Personnel employed by the Syndicate enterprises amounts to approximately 650 persons, and the salaries and commission involved are in the neighbourhood of 4,000,000 francs per year.

Dealerships of the Syndicated members total approximately 300; turnover and revenue taxes produce annually approximately 100,000 francs for the French treasury; joint publicity and propaganda commitments are not more than 100,000 francs per annum.

Effective realized prices of the Syndicate members are approximately 25 to 30% below the average realized prices obtained by Nema importers on household refrigerators, and from ⅓ to ¼ below the average realized prices of Nema importers in regard to commercial and industrial equipment.

The French refrigerator industry has no export market, except the French colonial market. This is insignificant, only 17 units having been sold by it to the French colonies during 1935.

The French refrigerator industry's relative position in the world market is approximately 0.3%.

French customs statistics given in Table 2 show entries of refrigerator equipment and similar apparatus into France during 1934 and 1935.

French Business; Paris Fashions

Baron Luigi Parilli (right), Kelvinator European manager, instructs his Paris dealer before leaving on a motor trip to Belgium and Holland. The two gentlemen are standing before the gates to Baron Parilli's sumptuous Paris home, the interior of which is the most expensively furnished dwelling in which the editor of the News has ever lunched. Picture on the right shows the latest Parisian fad in clothes: a young man and woman dressed in suits of precisely the same material and cut, with matching scarves. Everywhere in Paris one sees couples so attired.

Volume of export sales of American refrigerators and equipment in France is reflected by the figures in Table 3, values of totals being in thousands and representing invoices to distributors (exclusive of York and Carrier):

* * *

French Nema Members

French Nema importers' organization members are:

Mr. Gurtner, Paris, Apex Electrical Mfg. Co.

Carrier Continentale, S.a.r.l., Paris, Carrier Engineering Corp.

Mr. Dumont "Salvador," Paris, Crosley Radio Corp.

Local French Refrigerator Organization

Frigidaire Ltd., Paris, Frigidaire Division General Motors Corp.

Frigeco, S. A., Paris, General Electric Co.

George N. Benkly, Paris, Gibson Electric Refrigeration Corp.

Markt & Co. Paris Ltd., Paris, Kelvinator Corp. and Leonard Refrigerator Co.

Harry G. Noordberg, Amsterdam, Merchant & Evans Co.

Couesnon, S. A., Paris, Norge Corp.

Cie. Gle. d'Electricite, Paris, and Servel Ltd., Paris, Servel, Inc.

Arce & Cie., Paris, Sparks-Withington Co.

Berton & Sicard, Marseilles, Universal Cooler Corp.

Societe pour le perfectionnement de la Chaufferie, Paris, Westinghouse Electric & Mfg. Co.

(*Concluded on Page 7, Column 1*)

Table 2—Domestic Refrigerator Imports, 1934-35

	During 1934 No.	During 1934 (1,000 frs.) Value	11 Months, 1935 No.	11 Months, 1935 (1,000 frs.) Value
Germany	486	717	502	668
Austria	1	1	1	5
Denmark	.....	.....	3	12
Great Britain	55	81	9	11
Italy	11	44	10	28
Netherlands	.....	.....	1	1
Poland	.....	.....	1	2
Sweden	26	51	61	184
Switzerland	32	83	40	60
Belgium	25	66	20	34
Canada	46	52	.....	.....
United States	14,554	16,542	9,869	12,600
Total	**15,236**	**17,637**	**10,517**	**13,605**

In 1934 the United States furnished 95% of the units imported.

Table 3—French Commercial Imports, 1934-35

	During 1934 No.	During 1934 (1,000 frs.) Value	11 Months, 1935 No.	11 Months, 1935 (1,000 frs.) Value
Germany	1,494	3,047	539	1,071
Austria	.....	9	.....	2
Denmark	171	433	217	388
Great Britain	95	230	107	130
Italy	203	422	81	142
Norway	.....	.....	1	.....
Netherland	92	57	125	84
Sweden	953	1,219	572	635
Switzerland	1,299	2,131	437	683
Belgium	630	706	388	429
United States	5,672	7,894	3,283	4,721
Algeria	5	3	18	31
Syria	1	.....	.....	.....
Martinique	2	5	.....	.....
Czechoslovakia	40	49	.....	.....
Total	**10,667**	**16,205**	**5,768**	**8,316**

Table 1—Imports into France, First Five Months of 1935

Country	Jan. '35 No.	Jan. '35 Value (1,000 fr.)	Feb. 35 No.	Feb. 35 Value (1,000 fr.)	March '35 No.	March '35 Value (1,000 fr.)	April '35 No.	April '35 Value (1,000 fr.)	May '35 No.	May '35 Value (1,000 fr.)	Total 5 Months '35 No.	Total 5 Months '35 Value (1,000 fr.)
Germany	5	12	35	52	5	7	148	152	160	169	353	392
Austria	1	4	....	....	...	1	....	....	....	....	1	5
Denmark	1	2	....	....	...	....	....	....	2	9	3	11
Great Britain	3	4	....	....	...	....	....	....	....	....	3	4
Italy	...	1	....	....	...	....	5	12	1	4	6	7
Poland	...	....	....	....	...	....	1	2	....	....	1	2
Sweden	14	43	1	2	5	17	15	48	13	32	48	142
Switzerland	5	16	3	9	23	19	1	2	7	12	39	58
Belgium	2	3	....	....	3	3	1	1	1	2	7	9
United States	454	479	248	281	221	252	1,073	1,229	1,760	2,239	3,756	4,480
Totals	**485**	**564**	**287**	**344**	**257**	**299**	**1,244**	**1,446**	**1,944**	**2,467**	**4,217**	**5,120**

Crowds Throng Modernistic Refrigeration Exhibits at Annual Paris Exposition

These crowded exhibits were among the two dozen or so put up by Parisian manufacturers and distributors at the annual Foire de Paris in May and June. The one in the center is that of the Paris branch of the International General Electric Co., which uses the trade name, "Frigeco" (abbreviation of French International General Electric Co.) for its refrigeration products.

(*Concluded from Page 6, Column 5*)

York Shipley, Ltd., Paris, York Ice Machinery Corp.

Jean Robert, Clermont Ferrand, Brunner Ice Machine Co.

Importance of these Nema firms in the French refrigeration picture may be gauged by the following facts and figures:

The purchase made by the members with the French subsidiary and dependent enterprises:

1930	Frs.	9.3 million
1931		9.6 million
1932		10.2 million
1934		11.5 million
1934		19.2 million

Customs duties and taxes paid by American importers into the French treasury:

1930	Frs.	5.2 million
1931		5.8 million
1932		5.4 million
1933		5.7 million
1934		12.6 million

Salaries, commissions, labour, sales personnel (not including expenses of agents and representatives):

1930	Frs.	9.2 million
1931		12.4 million
1932		12.6 million
1933		12.8 million
1934		29.6 million

Members' other overhead expenses in France, including publicity and propaganda:

1930	Frs.	9.3 million
1931		11.6 million
1932		11.1 million
1933		11.1 million
1934		14.9 million

Personnel employed (excluding personnel of representatives and agents):

1930	426
1931	506
1932	515
1933	554
1934	786

French salesmen of the Nema members in France total approximately 1,200 men.

The members of the French Nema committee have approximately 5,500 selling outlets in France alone, and a highly specialized selling group.

Only one-fifth to one-third of the average realized price in France flows back to the American manufacturer in the United States. French national economy should continue to benefit in the future, at a gradually increasing rate, by not less than Frs. 76,000,000, per year on the basis of the French Nema group's sales performance in France in 1934, if the quota were removed, the distributors point out.

The normal price in France on an American domestic household refrigerator is 4,000 francs, whereas the normal price of a locally assembled or locally made 4-cu. ft. refrigerator is 3,000 francs. Differential in other sizes is proportional.

Prices of American-built commercial refrigerators are substantially above those of French-built material. This differential is brought about entirely by the price difference of the actual refrigerator equipment, compressors and accessories; the other elements making up a complete Nema installation are in either case of French manufacture.

In a complete installation, the cost of the actual refrigerator equipment amounts to from 15 to 25% only of the total cost.

* * *

Promotional Development

It is an acknowledged fact that, at the beginning of the American electric refrigerator export era, sales resistance in France was notorious. French importers time and again declared that France was no country for this sort of business, and that an inherent sales resistance of a type entirely unknown in the United States would for many years to come defeat any pioneer work.

Large and powerful French industrial units, the legal owners of refrigerator patent and manufacturing rights, have steadfastly declined to manufacture the equipment.

Encouraged by the success of American manufacturers in introducing mechanical refrigeration to United States homes, with the consequent rise in standards of living and drop in infant mortality, French representatives of Nema companies began what they well knew would be a long, uphill fight—the effort to introduce and develop electric refrigeration in France, and to bring its benefits to all the people, rich and poor alike.

The more important French organizations of the Nema group have made, during those pioneer years in France, a joint cumulative investment in French goodwill aggregating approximately 40 million francs, with no other prospect but that of eventually reaping, perhaps within the next decade, the fruits of their promotional development activities.

The combined efforts of American manufacturers of electric refrigerators, and of their representatives and distributors in France, have translated themselves into an annually recurrent increment of sales volume. This, however, will still have to be considerably accented in order to be come productive of net profits in reasonable proportion to the cumulative investments made in the interest of constructive market development and rapid penetration, say Paris distributors. (And if you can gargle that sentence in one breath, you should be making campaign speeches.)

* * *

Competitive Troubles

In addition to their troubles with a stubborn market, French Nema representatives have also had to combat another sales-dropping factor, they assert — unfair competition from French firms in advertising.

The expression "unfair competition" (concurrence deloyale), although not found or defined anywhere in the codes or statutes of France, is in general use by French courts.

The cardinal principle of unfair competition in France, as shown in the court decisions, is *intent to injure.* French jurisdiction makes a distinction between unfair competition (concurrence deloyale), and unlawful competition (concurrence illicite), based on the existence or non-existence of wrongful intent. Where an act is done with intent to injure, it is considered an act of unfair competition. Where a party in good faith commits a legal wrong or simply through negligence or carelessness injures another, it is considered an act of unlawful competition.

* * *

Advertising Laws

According to French law, a manufacturer has the right to use every legitimate means in advertising the merits of his goods or of his establishment, but he must refrain from doing anything of a nature to injure the reputation of his competitors or to disparage their business. It is not considered unfair for a person or enterprise to indulge in the most extravagant claims for his or its own products, as long as he or it does not refer to a competitor or competitors disparagingly.

In order to constitute an act of unfair competition, disparaging statements must be proven to have been publicly made.

Advertising has been used by the French Syndicate and its members respectively as a weapon of destructive and predatory competition, competitors assert.

Although the disparaging statements do not mention any competitor or competitors, or their products or establishments by name, the unfair competition, it is claimed, lies in the nature of the allegations and insinuations which cause injury to the competitors. The public, it is said, can easily understand to whom the disparaging statements refer, it being common knowledge that the French organizations of the foreign importers and the non-syndicated manufacturers or distributors in France supply about 90% of the French refrigerator market and that out of these 90%, 70% are Nema importers.

* * *

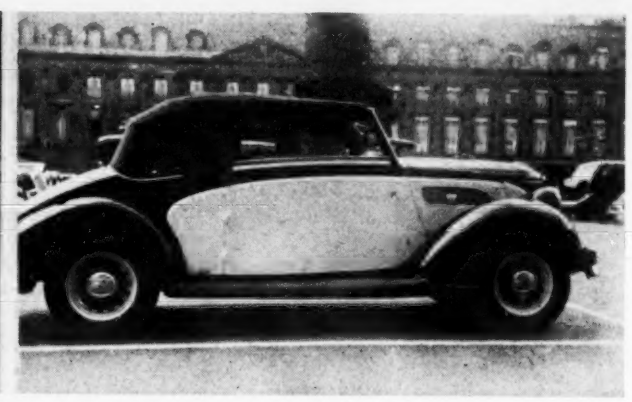
Trade Restraint Charged

French non-syndicated refrigerator manufacturers or assembly works and the French organizations of Nema see in the syndicate's action, as well as in its isolated action which precipitated the issuance of a refrigerator quota, (1) an attempt to control the supply or the channels of supply; (2) a combination in restraint of existing trade; (3) an attempt to limit and restrict French non-syndicated assembly production based on American imports; (4) an attempt to damage non-syndicated and dependent enterprises and dealers by gradually forcing their plants and establishments into idleness.

All of which, they assert, constitutes unfair and illegal competition and an action in restraint of trade to enhance the price and retard the distribution of equipment which is "of primary necessity for the improvement and the maintenance of public health and constitutes a powerful, efficient and successful weapon to combat infant mortality, thus seriously encumbering public health and the freedom of individual action necessary to national economy," as the Nema distributors put it.

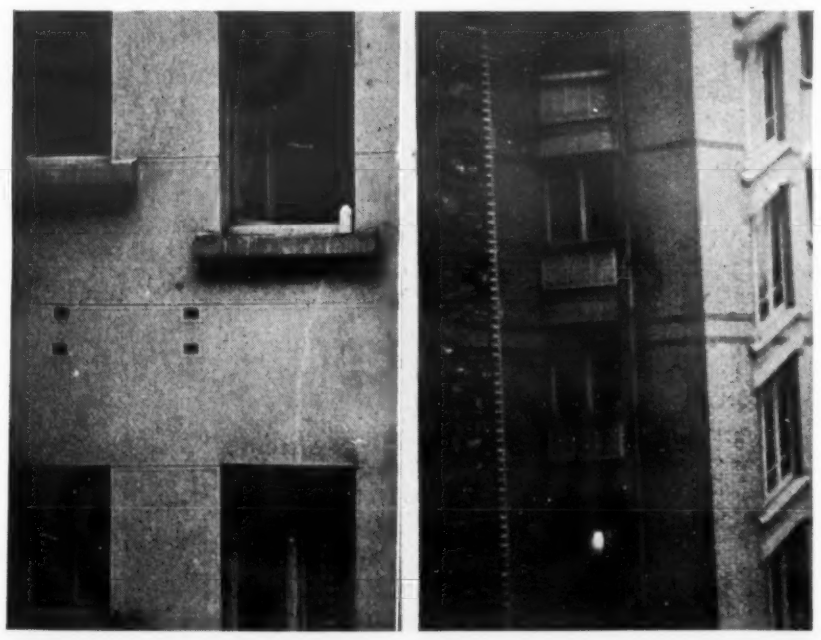
Inability of the French assembly firms to satisfy the French market qualitatively and quantitatively is undeniably demonstrated by the fact that it took the industry from 1910 till 1935 to reach an annual output and sales turnover of only 2,000 domestic household refrigerators and of only 1,500 commercial installations.

Sidewalks of Paris and Ford Convertible—French Version



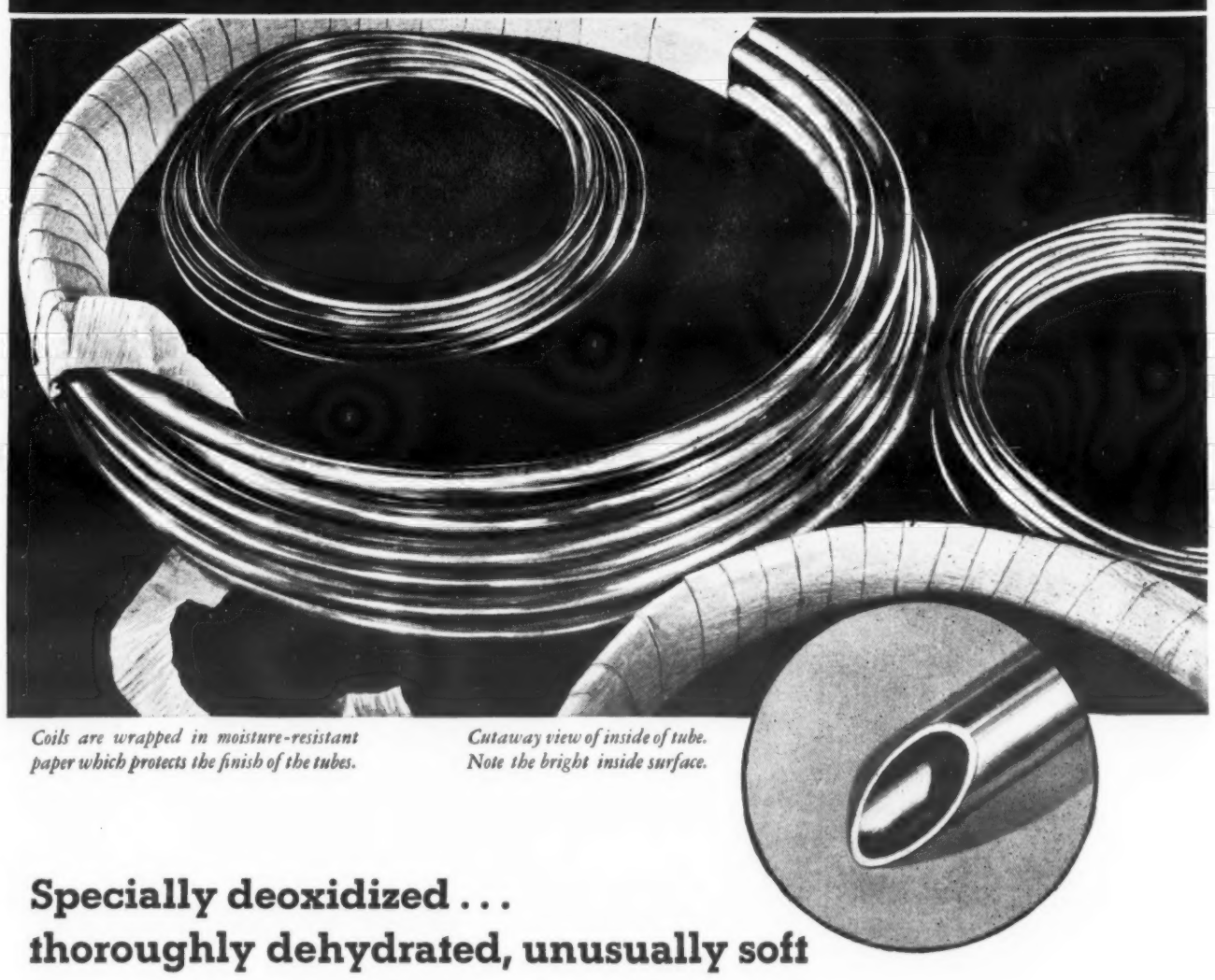
The sidewalk cafe is an institution in Paris. At all hours, but especially from 4 to 8 o'clock in the evening, these sidewalk tables are crowded with men and women who will sit and contemplate, or chat idly, for hours over one drink. This cafe is run by Georges Carpentier, famous French boxer who once lost to Jack Dempsey—another restaurateur. In the second picture is a Ford V-8 in a French body. The French "go for" sporty automobile bodies, at the making of which they are far advanced over American manufacturers.

How the French "Refrigerate"?



Two types of the garde a manger, or "fresh air refrigerator" with which practically all French apartments and homes are equipped. At the left is an apartment in which the garde a manger is on the inside, with square vents to the outside air. On the right the box is on the outside, just under each window.

ANACONDA COPPER REFRIGERATOR TUBES



Coils are wrapped in moisture-resistant paper which protects the finish of the tubes.

Cutaway view of inside of tube. Note the bright inside surface.

Specially deoxidized . . . thoroughly dehydrated, unusually soft

There are three outstanding reasons why Anaconda Copper Refrigerator Tubes enable you to do a first-class installation job quickly, easily . . . and with the best results for your customers.

1—Deoxidized. Anaconda Copper Refrigerator Tubes are 99.9% pure copper, specially deoxidized to increase their corrosion-resistance.

2—Dehydrated. These high quality tubes are thoroughly dehydrated. They are manufactured according to A. S. T. M. specifications by methods which assure *unusually bright, clean inside surfaces.*

3—Soft. Then, too, Anaconda Copper Refrigerator Tubes are unusually soft. They may be easily bent and will *flare without cracking.*

The leading refrigerator manufacturers' specifications for tubes to be used in installation work are met by Anaconda Copper Refrigerator Tubes. When *you* install them, you give the purchaser full value for his money. The result is increased good-will for yourself and for your business.

Anaconda Copper Refrigerator Tubes are carried in stock by leading distributors of refrigerator parts.

ANACONDA

36418

FRENCH SMALL TUBE *Branch*

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Good News

AFTER all these years, the newspapers are again printing their financial pages in black ink, and it is once more becoming a pleasure to read them. For example, last week the F. W. Dodge Corp., which is the Dun & Bradstreet of the construction business, announced that 1936 would likely produce figures on residential building three times those for 1933 and 1934. In the first nine months of 1936, residential construction totaled 23% more than was reported for the entire year of 1935.

The volume of this type of building in the 37 eastern states during this period amounted to $588,030,600, against $338,907,500 for the same nine months of 1935, a gain of 73%. For September alone, the residential total was $80,669,800, compared with $41,810,800 for September, 1935, and $100,522,500 for August of this year.

Commenting on current conditions the Dodge organization said:

"In pre-depression days residential building led all other classes by a wide margin. During September, there occurred for the first time since the final quarter of 1928 a residential total in excess of that for either non-residential building or heavy civil engineering. This change in relationship presents a healthy development and within the near future the predominance of residential building may again likely become the usual relationship rather than the exceptional one."

Total construction work of all kinds started in the 37 eastern states during September amounted to $234,270,500, against $275,281,400 in August and $167,376,200 for September last year, the report said. A reduction in the volume of publicly-financed construction largely accounted for the shrinkage between August and September of this year.

For the first nine months of 1936 construction in the 37 states amounted to $2,041,627,200, a gain of 71% over $1,191,697,700 shown in the same nine months last year. Both public works and private work contributed to make the large gain shown between the two years in total construction.

What this decidedly upward trend means in terms of bigger volume, increased revenue and—we hope—extra profits for the air-conditioning and refrigeration industry should show up well in the financial statements of manufacturers, distributors, jobbers, and dealers, and in the income tax reports of salesmen.

So long as the installation of air-conditioning equipment was largely confined to buildings not designed for such installations, costs were thought to be prohibitively high by many prospects who were interested from the standpoints of health and comfort, rather than from that of increased business. Installing air conditioning *at the time a home is built*, however, is a different story.

Thus, for the first time, the air conditioning of homes may take an important place in the total volume reports of the industry.

That new refrigerators are needed for all new homes almost nobody will dispute. A modern refrigerator is as much a part of the recognized picture as a stove, a heating system, and closets. The big point for salesmen to get over is that in a home a family needs a refrigerator of adequate size. Those tiny jobs which are installed in apartments, where space is at a premium, are seldom capacious enough for the needs of those who have a new house, who are proud of it, and who want their friends to come and admire it, too.

Business belongs to the man who goes after it. According to these Dodge reports, there is plenty of new business to be had. The *well-informed* dealers and salesmen, those who know where the new homes are going up and who is building them, and who, moreover, know what competition is doing to get that business and how to answer competitive arguments, should be in an excellent position to make 1937 a highly profitable year.

Business Should Resume in Palestine

CHEERING news comes out of Palestine: the Arab High Committee has called off its 175-days-long general strike, and "expresses hope" that all violence will end. The arrival of large detachments of British troops to enforce martial law seems to have convinced those who were inciting all the trouble that guerilla warfare in the "holy land" will no longer be healthy.

For the last three years the tiny country of Palestine has been one of the best foreign markets for American refrigeration equipment, both from the standpoints of volume and profits. More American manufacturers are represented there than in any other nation on the face of the globe. Practically all of them have done well, some of them exceedingly well.

But 1936 presented a different aspect. The Arab general strike tied up shipments in the harbors. Further shipments were held up in New York, pending settlement of the strike. Dealers were getting plenty of orders, but couldn't get the equipment to fill them. Moreover, the bomb-throwing and sniping made many prospects uneasy, and not prone to invest in fixed assets. Hence business in Palestine has been far from what it might have been this year.

Now that the strike is ended, however, ships may again anchor outside of Jaffa and Haifa, and discharge crates of refrigerators, compressors, coils, and parts onto tenders which will deliver them at the docks. With renewed business and confidence in the future, prospects should again be interested in acquiring the refrigeration which is so badly needed in that warm country.

A great deal of pent-up desires can now be realized, blocked orders can be filled; and the results should be highly gratifying both to the American air-conditioning and refrigeration industry, and to the numerous distributors who are selling American products in that booming country. Manufacturers and export agents may find it profitable to direct special promotion to this market at once.

Letters

Advertising Statistics Unjust to Norge?

Norge Division
Borg-Warner Corp.
670 E. Woodbridge St.
Detroit, Mich.

Gentlemen:

In your issue of September 2nd. of ELECTRIC REFRIGERATION NEWS, you published 1936 National Magazine advertising expenditures to date of June 1st.

You list these as the expenditures of "13 Leading Manufacturers of Mechanical Refrigerators," and give the Norge expenditure in the amount of $88,050.00. As you will note from the copy of the attached bulletin to our distributors, our actual expenditure for that period in National Magazines amounts to $167,965.40.

We cannot help feel that publication of these erroneous figures, without any attempt to check with us was very unwise and extremely unjust.

J. A. STERLING, Advertising and Merchandising Manager

* * *

NORGE General Distributor Bulletin
September 25, 1936
Bulletin: G-215-36
Subject: National Magazine Advertising

TO ALL DISTRIBUTORS:

In a recent issue of ELECTRIC REFRIGERATION NEWS, figures were published that were reputed to be accurate analyses of National Magazine advertising on the part of various refrigerator manufacturers for the first six months of the year. In this list, Norge was placed at $88,050.50.

In order to clarify any misapprehension that may arise at the publication of these erroneous figures, we are attaching hereto our figures of actual payments for releasing of advertising in National Magazines to Oct. 1, 1936. (*See table below.*)

For the first six months of 1936 our actual expenditure amounted to $167,965.40, which is widely different from the figure published. To avoid any possibility of further misapprehension in this connection we are listing in the attached tabulation the actual release datings of the advertisement so that anyone who cares to may refer to the actual publication. The advertising was all full page and much of it was in color.

These figures are only for the purchase of space alone in the various magazines or class magazines. They do not include the expenditures made for space in trade magazines or class magazines. They likewise do not include preparatory costs, art work, plates or other incidental expenditures.

J. A. STERLING,
Advertising and Merchandising Manager

Norge Figures Include Advertising for Other Appliances

Answer: In your letter dated Sept. 21 (but which we received Oct. 1) you state:

"We cannot help but feel that publication of these erroneous figures, without any attempt to check with us, was very unwise and extremely unjust."

Yet at the same time you sent out a general bulletin to your field sales organization in which you make the charge that information we published was erroneous, without making any attempt to check with us.

The figures which we published were not those which we collected through our own efforts, but were obtained from a thoroughly reliable source. The continued disinclination of manufacturers to submit pertinent statistics on their business has forced us to seek such information from whatever reliable sources that we can find.

The source of the figures which we published on national advertising chose to give credit, as electric refrigerator advertising, only to those advertisements in which the refrigerator was very much the dominating factor in the copy.

Best illustration that can be made of this distinction is in the Norge advertisements which appeared in the Jan. 18 and Feb. 8 issues, respectively, of the *Saturday Evening Post*. In the January 18 issue the Norge refrigerator clearly dominates the copy, although a very small mention is made of the other appliances in your line. In the Feb. 8 issue the copy theme is the "Matched Kitchen Unit" in which the refrigerator shares the spotlight with other appliances. In the case of your February advertisement, the source of our figures chose to place your advertisement in the "household equipment" group in the breakdown of its compilation of advertising expenditures.

This treatment was applied to all companies. Of General Electric's three pages in color, which appeared in the March 29 issue of the *Saturday Evenenig Post* (we believe), they received credit as advertisements of refrigerators for only two pages, because appliances were mentioned incidentally on one of the pages.

Because of the fact that you chose to combine other appliances with the Norge Rollator refrigerator in about half of the advertising which you did in the first six months of this year, a somewhat unfavorable impression resulted when the record of advertising on refrigerators was published. We were probably somewhat at fault in not presenting a clearer explanation, at the time the figures were published, of what they pertained to.

Needed in Palestine

W. Diner
47 Shlomo Hamelech St.
Tel-Aviv, Palestine
Sept. 11, 1936.

Gentlemen:

Please note my new address.

I wouldn't like to miss even one of the issues of your excellent paper.

W. DINER.

General Farley Must Be Busy Electioneering

General Refrigeration Sales Co.
Lipman Automatic Refrigeration
Beloit, Wis.
Oct. 12, 1936.

Circulation Manager:

Knowing about some of the complaints you have received concerning delivery date on ELECTRIC REFRIGERATION NEWS, it occurs to me that you might be interested in our experience in connection with this matter.

About two years ago, we were receiving our copies of the NEWS on Friday. A year ago we started to receive it on Saturday, with an occasional late Friday afternoon delivery. For the last three months, it has arrived on Monday morning.

Apparently the situation is getting worse instead of better and we are giving you these facts in the hope that they may be of assistance to you in determining the reason for late delivery.

D. G. FIFIELD,
Sales Promotion Manager.

Reprinted as Published

Page Electric Co., Inc.
Westinghouse Modern Electric
Kitchens and Appliances
1405 Biscayne Blvd., Miami, Fla.
Sept. 22, 1936.

Mr. Taubeneck:

Subject: Reprint of front page of Sept. 2 issue of REFRIGERATION NEWS.

We are in receipt of your telegram authorizing the reprint in the whole of the article, regarding bids on refrigerators for Government Housing Projects.

We wish to thank you for this favor and enclosed is a copy of the reprint, showing that we have complied with your request to publish the article in whole.

T. C. KELLOGG,
Sales Manager.

Manufacturers Agree to Cooperate in Revising Specifications Book

Universal Cooler Corp.
Manufacturers of
Electrical Refrigeration Since 1922
Detroit, Mich.
Oct. 7, 1936

The REFRIGERATING AND AIR CONDITIONING SPECIFICATIONS BOOK has been received and is very much appreciated.

I am sure these data will be a great help to everyone in the industry. You and the other members of the staff deserve a great deal of credit for the job which you have undertaken.

You may depend upon our continued cooperation when you go about revising the present edition for 1937.

J. L. ZANT,
Commercial Sales Dept.

Westinghouse Electric & Mfg. Co.
200 East Fifth St.
Mansfield, Ohio
Oct. 6, 1936

Thank you very much for your letter of Oct. 2 and for our copy of the 1936 REFRIGERATION AND ENGINEERING SPECIFICATIONS MANUAL.

If we can be of any assistance in the future, please do not hesitate to let me know.

ARTHUR J. MANSON, JR.,
Air Conditioning Sales

Sears, Roebuck and Co.
The World's Largest Store
Chicago
Oct. 7, 1936

I am sure we shall find the 1936 REFRIGERATION AND AIR CONDITIONING SPECIFICATIONS BOOK very valuable as a handy reference to our own as well as other makes of past models of refrigerators.

I hope I may be able to help you again with your next issue.

G. STRUNK, Dept. 662

Gibson Electric Refrigerator Corp.
Greenville, Mich.
Oct. 5, 1936

Will be pleased to cooperate with you in connection with the 1937 edition of the REFRIGERATION AND AIR CONDITIONING SPECIFICATIONS BOOK. With kindest personal regards.

CHARLES J. GIBSON,
President

Servel, Inc.
Commercial Refrigeration Division
Evansville, Ind.
Oct. 5, 1936

A brief perusal of the REFRIGERATION AND AIR CONDITIONING SPECIFICATIONS BOOK shows that it evidently took a great deal of time, effort and money to produce it and will no doubt be well received by the industry at large.

It is of course difficult for us at this time to know what policies it will be necessary for us to pursue next year but I can now see no reason why we should not be able to fully cooperate with you in revising and adding to the information on Servel equipment in your next issue of the Specifications Book.

P. B. REED,
Service Manager

Kelvinator Corp.
Detroit, Mich.

The 1936 REFRIGERATION AND AIR CONDITIONING SPECIFICATIONS BOOK was received and is deeply appreciated.

I have not as yet had time to peruse this book carefully, but will in the near future.

Any time I can be of service in giving help in the compilation of data for the 1937 issue, do not hesitate to call on me.

C. R. KINGSLEY,
Service Dept.

Hotpoint Refrigerator Div.
Appliance and Merchandise Dept.
General Electric Co.
Nela Park, Cleveland

We will be only too glad to furnish the 1937 specifications on Hotpoint refrigerators, when requested.

HOWARD J. SCAIFE.

Norge Advertising from Jan. 1, 1936

Date	Publication	Size	Space Cost	
Jan. 18	Saturday Evening Post	Full page	$ 10,475.90	
Jan. 18	Colliers	Full page	6,750.00	
Feb. 8	Saturday Evening Post	Full page	10,475.90	
Feb. 12	Christian Science Monitor	Full page	1,075.00	
Feb.	Good Housekeeping	Full page	7,490.00	
Feb.	Ladies' Home Journal	Full page	9,900.00	
Feb. 15	Colliers	Full page	6,750.00	
March	Good Housekeeping	Full page	7,490.00	
March	Ladies' Home Journal	Full page	9,900.00	
March 7	Colliers	Full page	7,225.90	
March 11	Christian Science Monitor	Full page	1,075.00	
March 14	Saturday Evening Post	Full page	10,475.90	
April	Good Housekeeping	Full page	7,500.00	
April	Ladies' Home Journal	Full page	9,900.00	
April 11	Saturday Evening Post	Full page	10,475.00	
April 15	Christian Science Monitor	Full page	1,075.00	
April 18	Colliers	Full page	6,750.00	
May	Good Housekeeping	Full page	7,490.00	
May	Ladies' Home Journal	Full page	9,900.00	
May 9	Saturday Evening Post	Full page	10,475.00	
May 16	Colliers	Full page	6,750.00	
May 27	Christian Science Monitor	Full page	1,075.00	
June	Good Housekeeping*	Full page	7,490.00	
Total to June 1				$167,965.40
June 13	Saturday Evening Post	Full page	8,975.90	
June 17	Christian Science Monitor	Full page	1,075.00	
July	Good Housekeeping	Full page	6,490.00	
July 11	Saturday Evening Post	Full page	8,763.40	
July 15	Christian Science Monitor	Full page	1,075.00	
Sept. 12	Saturday Evening Post	Two pages	18,884.90	
October	Good Housekeeping**	Full page	6,335.00	
Total to date				$219,564.60

*Published in May.
**Published in September.

A Journal of the Kelvinator Cruise

By T. T. Quinn

Winners in Kelvinator Corp.'s "Keep the Ball Rolling" contest, factory officials, distributors, and guests took a nine-day cruise to Havana on the liner Franconia, returning Sept. 30. This is a continuation of Assistant Editor Ted Quinn's report on cruise happenings.

The Science of Selling

Salesmen may hesitate to consider themselves as scientists, even of the most practical sort, but Prof. Robert F. Elder of Massachusetts Institute of Technology, in his address to Kelvinator cruise-winners, showed them where they might find several points of similarity.

While selling can never been considered an exact science, Mr. Elder said there are several scientific principles which can be used with success by salesmen in all branches of industry.

"The scientist tries to find new ways of doing old things—so does the salesman," Mr. Elder said. "The scientist makes experiments, and records his findings, as to methods and results. The salesman doesn't, but perhaps he should.

"Both are professions, although salesmanship, as yet, has not been accorded the recognition it rightfully deserves."

The salesman has a professional responsibility, Mr. Elder said, to see that his product is sold rightly. The old-fashioned manner of selling, with salesman and customer each trying to put something over on the other, has passed, he added. Today the mutual responsibilities of buyer and seller are recognized.

"The manufacturer has a definite responsibility to his customer," Mr. Elder said, "The salesman's job is to see that that responsibility is carried out."

It is poor salesmanship, Mr. Elder asserted, to let the customer buy more than he can comfortably afford to pay for; it is poor salesmanship, too, to sell the customer a product inadequate for his needs. No sale, he said, is a success unless the customer is satisfied—and stays that way.

Salesmen, Mr. Elder said, should have a creed, a code of ethics—and should live up to it. As a starter, he suggested the following:

The salesman's creed:

1. I wholeheartedly accept the fundamental responsibilities involved in the practice of the selling profession.

2. I believe that no sale is a good sale unless both buyer and seller alike benefit from it. To my customers I owe an obligation to study their needs and to do my best to insure their lasting satisfaction with what they buy from me. I realize that this requires of me to have at all times a complete and up-to-date knowledge of my product and its applications. I renounce the doctrine of "caveat emptor," and stand ready to take the responsibility for the soundness of every sale I make.

3. I believe that as a salesman I owe an obligation to society as a missionary of higher standards of living. By doing an effective selling job, I teach people to live more comfortably and more enjoyably.

4. To my fellow employes, working in plant and office, I owe an obligation to do my utmost to produce the orders on which the continuance of their employment depends. It is my responsibility to seek out good prospects and to refrain from wasting time on bad ones, in order that I may contribute most to the welfare of my fellow workers. I realize, too, that the permanancy of their jobs is largely in my hands, since I am the principal custodian of my company's good will. I shall be careful to conserve it.

5. To my profession of selling, I owe an obligation to compete fairly and honestly. The salesmen who work for my competitors are entitled to be sure that I will not directly or by implication misrepresent their products or their practices, and that I will not engage in shady and underhand selling practices. But I promise them a battle for every piece of business, none the less hard because it is clean.

6. To the business community of which I am a part, and to the economic system under which I earn my living and in which I believe, I owe the obligation so to conduct myself that the general public will believe in and respect the integrity of the profession to which I belong, and of business in general.

* * *

About 'Blind Flying'

"Blind flying" may be necessary in aviation, but it isn't in selling, Dr. Vergil Reed, assistant director of the Census of Business, told the cruisers —and the business man who persists in following the fog in his daily affairs is heading for a financial smashup.

Facts and figures, Mr. Reed said, are the business man's constant, reliable sources of information, and the man who doesn't use all of them he can get his hands on is doomed to extinction.

In the days before definite statistical information was available, business men often ran their affairs by "hunches," Mr. Reed said. This is no longer necessary today, with information of almost every conceivable sort available just for the asking, he added.

"Statistics are worthless, however, unless they are put to practical use," Mr. Reed said. "Every salesman, no matter how good he is, can use more facts about the people who live in his sales territory. Merely having the information means nothing. Get the facts—and then make use of them."

He explained the work of the Census Bureau, recording the continuous series of surveys which it is making in all parts of the country, and urged salesmen to use the services of the bureau as an aid to sales.

He suggested three major sources of information: 1. the local chamber of commerce; 2. the industry trade paper; 3. the local offices of the Bureau of Foreign and Domestic Commerce. Should these sources fail, he advised salesmen to go direct to the headquarters of the Department of Commerce in Washington.

* * *

Keeping Sales Sold

Edward L. Bernays, "America's No. 1 Publicity Man" and Kelvinator's public relations counsel, told members of the cruise party that, boiled down, public relations is simply the task of interpreting your company and its products to the public. And that, he added, isn't as simple as it sounds.

"Unless a corporation works in the interest of the public, it is both doomed and damned," Mr. Bernays said. "This principle is a basic one, and carries through all the way down the line, from the president of the corporation on down to the salesman, and sometimes even the delivery man.

"How many persons have quit doing business with a company just because they didn't like the man who delivered the goods to their homes?"

Good will and confidence, two things which any company must have to succeed, can't be built by magic, Mr. Bernays said. They must first be established, then reinforced by the actions and policies of the entire company, from top to bottom.

Great care and attention must be paid to the public interest, and to public opinion, Mr. Bernays asserted. Salesmen can help build up their company's good will by remembering that they are the chief emissaries of the organization's contact with the public—that they are at the first line of defense, so to speak.

He suggested the following specific steps:

1. Make the product better suited to the requirements of the public than any of its competitors.

2. Make the customers realize that the company's products serve better than all the rest, and induce them to buy.

* * *

The Cuban Market

Attention at President George Mason's luncheon on board the *Franconia* for Cuban and United States government officials and business men centered around the market for refrigeration and air conditioning in Havana and the rest of the island.

A growing demand for American products was reported by those attending the luncheon, particularly with regard to refrigeration and, lately, air-conditioning equipment.

The Cuban housewife today is keenly aware of the advantages of household electric refrigeration, despite the high current rates, it was reported. Rate reductions planned, however, will widen market for American refrigeration products, those at the luncheon believed.

An encouraging interest in air conditioning has also been noticed in the Island. Some of the more wealthy Cubans have already installed conditioners in their private offices, and a few installations are also to be found in Havana restaurants, where their benefits as profit builders have proved the worth of the equipment from a commercial standpoint.

* * *

Prepping For 1937

Kelvinator cruisers primed themselves for a bigger and better 1937 by conferences with company officials on individual and general problems, the day after the *Franconia* left Havana for New York City.

Executives were available for interviews by dealers and salesmen, as follows:

Sales: H. W. Burritt and Godfrey Strelinger; commercial: J. A. Harlan, assisted by E. V. Walsh, A. H. Reinach, and J. K. Knighton; domestic: M. S. Bandoli; washing machines; V. J. McIntyre; ranges: P. L. Miles; advertising: S. C. Mitchell and B. B. Geyer; public relations: Edward L. Bernays and Elmer L. Sylvester; territory potentials: E. W. Lothrop and H. D. Wehrly; finance: C. M. Armstrong; housing program: L. G. Estep; service: E. A. Siebert; and utility sales: Campbell Wood.

* * *

They Liked 'Em

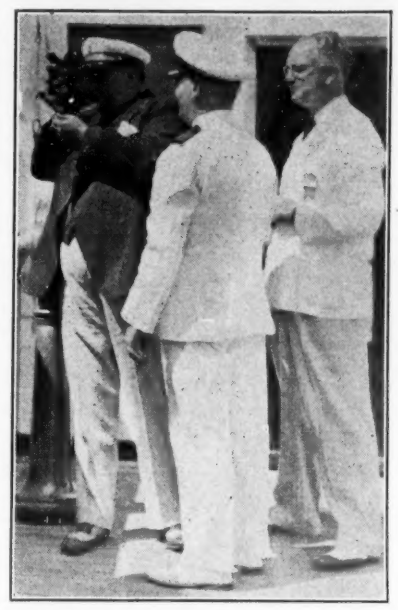
Helping to make the hours pass pleasantly for Kelvinator cruisers were the members of the Franconia's cruise staff, directing deck sports, headed by HAROLD HENNESEY as cruise director. Assisting him were W. J. McCORMICK, J. P. JONES, and R. N. HOCKENBERRY.

Present as Cunard-White Star's Detroit representative was F. N. CLARKE. Kirby Travel Service, of Detroit, which arranged the trip, was represented on board by EARL G. KIRBY and ROBERT M. LA RUE.

In appreciation of his assistance in making the cruise a success, Mr. Hennesey was presented with a Kelvinator "distinguished service" watch by President Mason on the last night of the trip.

Kelvinator's beneficence, however, was not confined to Mr. Hennesey. Every member of the ship's crew received a cash token for his services

On the Bridge



President George W. Mason (holding sextant) and Vice President H. W. Burritt of Kelvinator Corp., receive navigation instructions from Capt. A. T. Brown of the Franconia.

to those aboard. This, added to the tips which most of those on the cruise handed out, enabled the stateroom and dining room stewards especially to show a rather handsome profit for the nine days.

Crowning award, however, was made made on the last night out, when President Mason presented five of the ship's officers with brand new 7-cu. ft. Kelvinators, to be delivered to their homes in England.

Recipients of the new Kelvinators were Captain A. T. BROWN, Staff Captain R. SHARP, Chief Engineer J. CAMPBELL, Surgeon J. E. THORESBY, and Purser T. H. CULLUM.

* * *

Discerning Divers

As the Franconia eased into Havana harbor, she was met by the usual group of Cuban boys, who lined up along both sides of the ship, begging for coins.

Some of the more expert among them managed to pick up quite a bit of extra money. Curious fact was that despite their ignorance of all save the most elemental American terms, they seems to have a sound knowledge of American money. Pennies failed to move them—all they were interested in was shiny coins.

Vocabulary of the native divers is limited, but to the point. All Americans to them are "Charlie"—and their shrill yells, if they were intelligible at all, sounded most like "All right," "Come on," "Okay," and "Attaboy."

Late sleepers on the higher decks, on the return trip to New York, could be certain of being awakened, each morning, by piercing cries very similar to those with which they had been greeted at Havana.

But it wasn't a Cuban long-distance swimmer. The boys in the outdoor pools had caught on to the habit—and their imitations of the native divers netted some of them, at least, cigarette money at a time when extra cash was somewhat at a premium.

* * *

Greeter Crossen

Havana cruisers from eastern states were treated to a pleasant surprise when JACK CROSSEN, of the Kelvinator New York district office, steamed out into Havana harbor in a sightseeing cruiser to greet the incoming ship.

Mr. Crossen had come to Havana a week previously with a group of cruise winners in another contest sponsored by Public Service Co. of New Jersey. He made the return trip to New York on the Franconia.

* * *

Rosen Raillery

Distributor RAY ROSEN of Philadelphia was responsible for one of the neatest bits of wise-cracking heard on the cruise. It happened during the golf ball driving contest, second day out.

Especially noticeable among the more than 100 men who entered the contest was one who, in the spirit of mercy, shall remain unnamed. In the ship's club rooms, this fellow got off several good drives. He said he could smack the pellet down the fairway upwards of 200 yards.

Most of those who heard him, if they were entered in the next day's competition, began figuring their chances for second place. Top honors were generally conceded to the hard-driving one.

Came the day of the contest, and their fears seemed more than justified. Most drives carried only between 100 and 150 yards. Finally the 200-yard driver stepped up to the rubber tee. Amid a hushed expectancy, he took careful stance, and swung.

Badly sliced, the ball traveled less than 30 yards. There was a moment of silence. Then the Rosen voice boomed. "Go on," he cried. "Run it out!"

C. H. HADLEY of Los Angeles drove 160 yards to win the trophy. JOHNNY BOEHM of the factory organization was second with a drive of 155 yards.

* * *

Golden Glovers

Ten Golden Glovers from New York City furnished followers of the manly art with several stirring hours during the cruise. The boys, all with considerable experience in amateur circles, were provided through the cooperation of PATRICK J. KELLY, chairman of the Metropolitan Amateur Athletic Union. Kelvinator's JOHN GARCEAU directed the bouts.

* * *

Card Sharks

Bridge addicts, whether they preferred auction or contract, could indulge their fancies to the limit during the cruise—with loving cups the reward for those who came out on top.

F. A. SMITH, with 4,170 points, finished first in the auction bridge competition; E. H. ABERNATHY, who was runner-up, scored 4,095 points.

Winner in the contract bridge tournament was I. DONEN, with 3,800 points. P. H. WHITE was second, with 3,750 points.

* * *

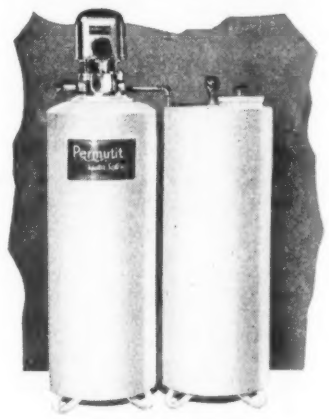
Major Bowes II

Kelvinator cashed in on the current popularity of "amateur nights" with one aboard the Franconia the second last night out. Perhaps it's just as well that celebrities aboard didn't include a theatrical producer—or some

(*Continued on Page 10, Column 1*)

APPLIANCE DEALERS...

Double Your Market with this live specialty



IF you sell oil burners, radios, washing-machines, electric refrigerators, et al., you are bucking big competition for a market already largely supplied. By adding Permutit Household Water Softeners to your line, you can tremendously increase your immediate sales opportunities.

Halve Your Overhead ... Your overhead at present must, of course, be charged against sales of your present line, with its limited market. By adding Permutit Water Softeners to your line, your fixed charges will be spread over many more sales — increasing net profit per sale on everything you sell.

Multiply Selling Efficiency ... Most of the specialties you sell are seasonal. Your direct sales force is continually broken up by loss of men in the dull season. By adding Permutit Household Water Softeners to your line, you gain an all-year specialty — a new field of prospects — a product offering a generous discount margin — and a contented, all-year force of efficient salesmen. Use this coupon.

Permutit

Water Conditioning

THE PERMUTIT COMPANY
Room 723, 330 West 42nd St.
New York City

Please send me information on your Permutit Household Water Softener and merchandising proposition to Dealers.

Name_____

Company_____

Address_____

RANCO uses SYLPHON BELLOWS in Thermostat Controls

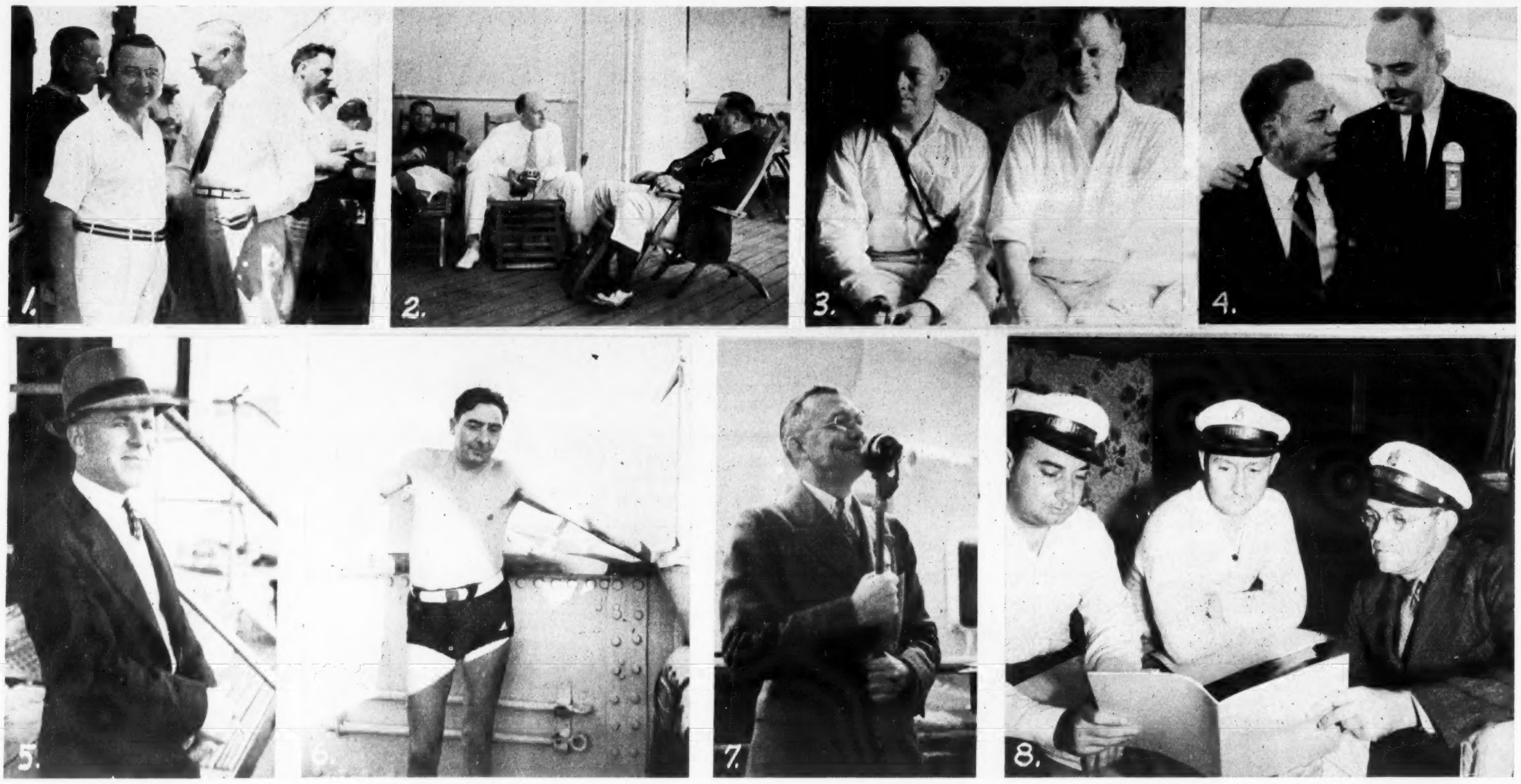
A thermostat is no better than its bellows. That is why Rancostat depends on a Sylphon Bellows for its alert, responsive, dependable operation and long life.

So it is with many leaders in the refrigeration industry who have the greatest investment in product acceptance and good will. They insist on the time-tested superiority of this, the world's most highly developed metal diaphragm . . . backed by 35 years of experience in its correct application, and an intimate knowledge and appreciation of refrigeration thermostats' requirements. Write for Bulletin TO. Sent on request.

FULTON SYLPHON CO.
KNOXVILLE TENN., U.S.A.

Representatives in All Principal Cities in U. S. A. and in Montreal, Canada and London, England

Shipboard Scenes During Kelvinator's 9 Day Cruise to Havana



1. Distributor Ray Rosen, New York District Man Jack Crossen, and Advertising Counsel Pat Geyer in a bit of shipboard conversation. 2. President George Mason, candid camera fan, talks exposures and lenses with another cameraddict who made the cruise. 3. Larry Blount and Lester Moll, two of the many southern gentlemen aboard the Franconia. 4. District Man Jack Reese and Utility Sales Manager Campbell Wood in an earnest discussion of fall sales possibilities. 5. John Garceau smiles over the success of the Golden Gloves bouts which he sponsored. 6 Domestic Sales Manager M. S. Bandoli—just before the splash. 7. "Your attention please, men . . ." Advertising Manager Sam Mitchell speaking. 8. Studying a winning "examination paper" written by a crack salesman: Walter Jeffrey, Bill Saylor, and Mr. Mitchell.

Members of Kelvinator Cruise Party Prove Their Worth as Showmen

(*Continued from Page 9, Column 5*)

refrigerator dealers might have been minus a couple of top-notch salesmen.

FRED HULBURD was the Major Bowes of the hour. All the acts were singles—which was regrettable, for it left many good pick-up quartets no outlets save clubroom concerts.

After considerable weeding, the field for the finals was narrowed down to 18 acts.

S. V. ABRAMSON, of Pierson Piano Co., Indianapolis, won the first prize cup with a well-executed banjo solo. FRANK BURKE, of 555, Inc., Little Rock, captured second honors through some cleverly done blackface dialog. HERMAN KLEIN, of Gamp Electric Co., St. Louis, with a fine tenor voice, won third place in the contest.

Other entrants in the amateur finals were MILLER HARRIS, banjo and harmonica; WILLIAM GODFREY, vocalist; GEORGE LA FORTE, vocalist; EUGENE STROHM, guitarist; JOHN HOPLEY and HARRY MOLL, sleight-of-hand artists; A. R. MORIN, character dialog.

Members of ISAAC WALKER HARDWARE CO., Peoria, Ill., with a skit burlesqueing their Havana adventures; EARL McCOY, E. D. JEFFRIES, A. A. HENDRICKSON, H. CONRAD, M. WARNICK, and SHIP'S STEWARD OWEN, vocalists; and J. McPHILLIPS, who entertained with a rhumba and song.

* * *

Deck Sports

The various deck sports, held daily throughout the cruise, brought out a large quota of entrants, and it wasn't until the final days that the fields were brought down to semi-final and final size.

Sports included ping-pong, shuffleboard, deck tennis, and quoits. The winners and runners-up:

Ping-pong: L. V. SCHROEDER, winner; C. E. GAMBILL, runner-up.

Deck tennis: JUDE BAESMAN, winner; HAROLD TASKER, runner-up.

Shuffleboard: Prof. R. F. ELDER, winner; J. D. CASSIDY, runner-up.

Quoits: W. V. COUNTRYMAN, winner; C. F. PEGLOW, runner-up.

* * *

Magical Mulholland

Magician JOHN MULHOLLAND, one of the trip's added attractions, mystified the cruisers for two hours the night before the Franconia docked in Havana.

Out of a seemingly inexhaustible bag of card tricks, he pulled a score that had his audience in one almost continuous gasp of incredulity from beginning to end.

Mr. Mulholland did not accompany the boat back to New York City, leaving by plane on a visit to the interior of Cuba, with Santiago de Cuba his first stop.

Not content with keeping his larger audience in such a state of bewilderment that most men were afraid to put their hands in their own pockets, Magician Mulholland held private session for small parties in various parts of the ship.

One particularly magic-minded audience that kept him busy with card and coin tricks for the better part of two hours was made up of J. A. HARLAN, Kelvinator commercial sales manager; THOMAS M. BECK, publisher of Collier's; CAMPBELL WOOD, utility sales manager; B. B. GEYER, head of the Geyer, Cornell, & Newell advertising agency, and V. J. McINTYRE, manager of laundry equipment sales.

* * *

Faster than Hockey

American conceptions of speedy sports undergo considerable revision after the first visit to jai-alai (say "hi-li") game. Admission to an evening's play at the Jai-Alai Fronton was one of the attractions provided for members of the cruise party.

Jai-alai combines the fastest features of squash and handball, and is speedier than either. Most of the professionals on the island are lads in their late 'teens or early twenties. The stamina required for the game is too great for older men.

Played on a three-walled court, jai-alai consists in slamming the ball against the forward wall, within the boundaries of the court, until one team either misses or bats it out of bounds. Players have a basket-like mitt on one hand, in which they catch the ball and hurl it, with blinding speed, against the wall.

Opponents may catch it on the fly or after the first bounce, and the return must be a continuous motion. Games are for a predetermined number of points, usually 25 or 30. Teams are usually composed of two players to a side, although the game may be played as a singles match, if desired.

Bookmakers are present (jai-alai is one of Cuba's three legalized forms of gambling, the other two being the national lottery and the Oriental Park races), and the odds shift as first one team, then the other, forges to the front.

Jai-alai makes hockey look like slow motion.

* * *

Havana Holiday

JOHN GARCEAU, sales promotion and advertising manager of the commercial refrigeration department, spent his time ashore on a deep-sea fishing expedition.

President GEORGE MASON, Vice President H. W. BURRITT, and Utility Sales Manager CAMPBELL WOOD were guests at Hotel Presidente.

* * *

Gaudy Graveyards

The trip to Havana's largest burial ground was an eyeopener for most of the Kelvinator visitors, for the reason that all graves, no matter how rich or how poor the family, have top slabs of marble.

In fact, about the only grass you'll see in the whole plot is that lining the roadway, near the sidewalks.

Cubans, it appears, are proud people—prouder even in death than in life. Every man wants his memory to be etched forever in everlasting granite. To be remembered in death, he'll scrimp and deny himself most of the pleasures of life.

Only distinguishing feature between the graves of the poor and the wealthy is this—the latter have magnificent monuments which serve as "houses" for them after death. Whole generations of a family are buried in these vaults, which often go yards underground.

* * *

About "Specs"

ROSS ROY, head of Ross Roy Service, Inc. comparative specification service used extensively by the Kelvinator field organization, made the trip down to Havana on the Franconia. He left the ship there, however, flying back to Detroit by way of Miami.

Incidentally, the comment heard most frequently of the NEWS on the voyage was the value of its specifications issues. One salesmen said his copy was worth at least $25 to him. Others said they valued it because it helped them to close sales on the spot.

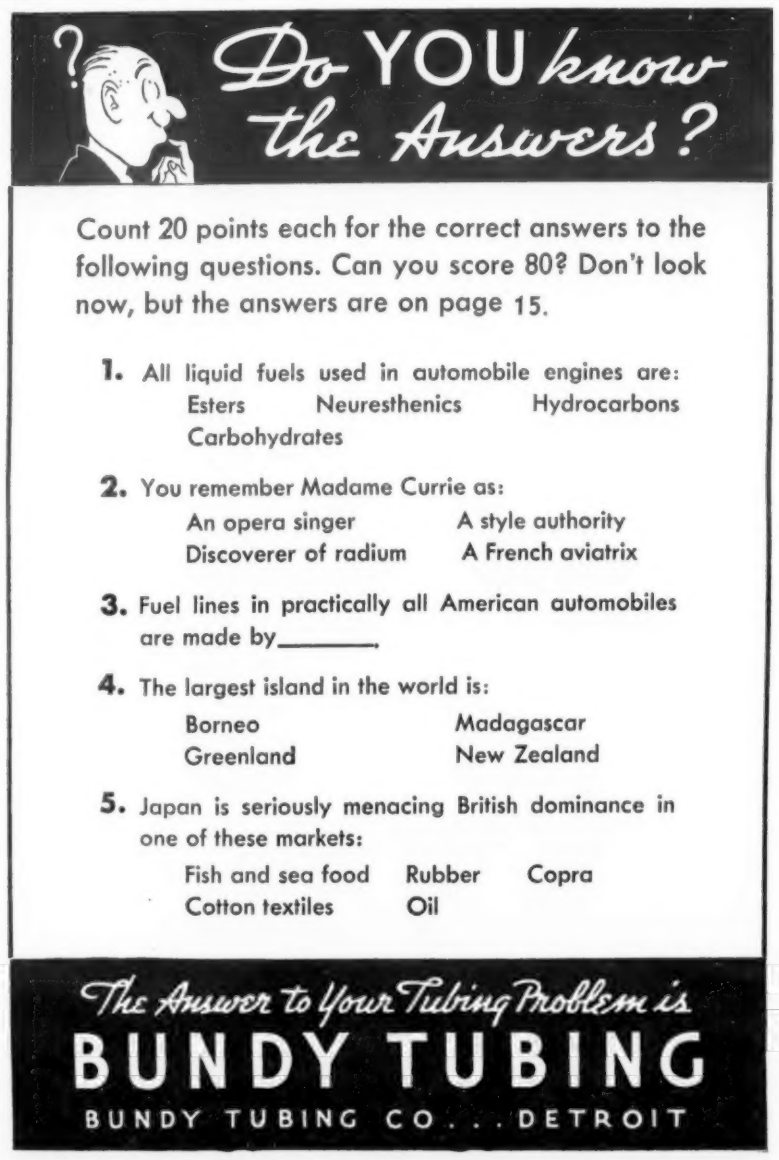
"If the housewife says, 'We want to look around,' we've got the answer for her," one salesman said. "All right, let's see what they've got,' we tell her. Then we bring out the specifications issue. More often than not, we get the order before we leave the house."

* * *

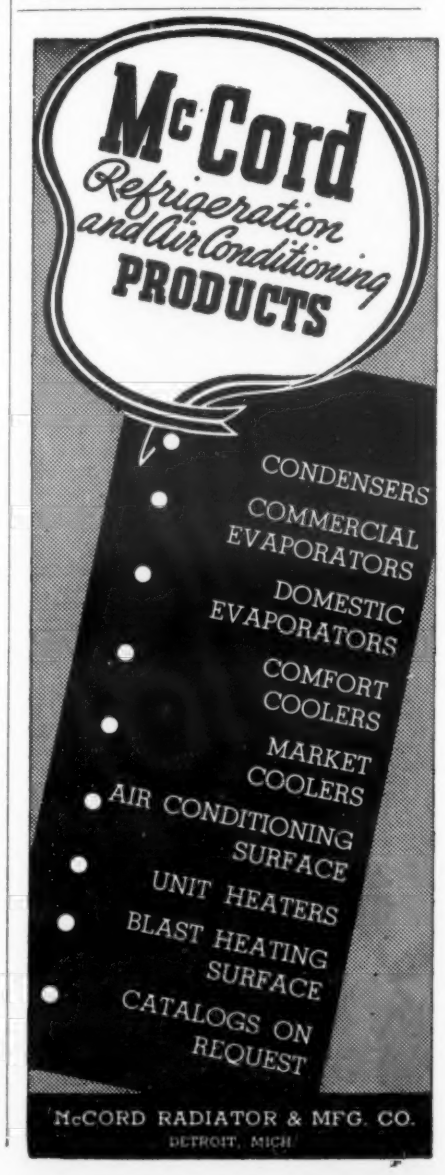
November Note

Politics reared its head during the cruise—but only to settle a bet between two of those aboard. If results are any indication of how the country is going in November, workers

(*Concluded on Page 11, Column 1*)


Do YOU know the Answers?
Count 20 points each for the correct answers to the following questions. Can you score 80? Don't look now, but the answers are on page 15.
1. All liquid fuels used in automobile engines are:
Esters Neuresthenics Hydrocarbons Carbohydrates
2. You remember Madame Currie as:
An opera singer A style authority
Discoverer of radium A French aviatrix
3. Fuel lines in practically all American automobiles are made by_____.
4. The largest island in the world is:
Borneo Madagascar
Greenland New Zealand
5. Japan is seriously menacing British dominance in one of these markets:
Fish and sea food Rubber Copra
Cotton textiles Oil

The Answer to Your Tubing Problem is
BUNDY TUBING
BUNDY TUBING CO. . . DETROIT



Top Salesmen Write Kelvinator's 1937 Sales Course

(*Concluded from Page 10, Column 5*)

of both parties had better start getting in their licks.

Only 353 of those aboard voted, and the final count was: Landon 179, Roosevelt 174. Lemke's name was left off the ballot.

* * *

Fact-Finder

Another research and statistical expert aboard the Franconia on the cruise was H. D. WEHRLY, head of Wehrly Service, Inc. The Wehrly organization has just finished an intensive study of territorial potentials for Kelvinator in all parts of the country.

More than 40 full-time men and 100 part-time employes assisted in obtaining the information, on which a great deal of Kelvinator's 1937 planning is based.

* * *

Writing the Manual

Kelvinator is going to its top-flight men for its 1937 sales training program. Ten prizes of $20 each were offered those salesmen and dealers aboard who turned in the best answers to questionnaires handed out the second day of the trip.

Salesmen were asked to outline, among other things, their best source of prospect leads, what Kelvinator sales features they stressed most, how they closed, with whom they dealt, where, when, what objections were heard most frequently, how they were met, and what types of Kelvinator advertising they considered most valuable.

Special questions on washer, ironer, gas and electric range sales were appended, to be filled out by salesmen who had had some experience in the sale of these appliances.

GEORGE WILCOCK, of Research Service, Inc., had charge of this work, assisted by W. B. SAYLOR, WALTER JEFFREY, and TRUMAN STEINKO of the Kelvinator organization.

* * *

Among Those Present

Emmons-Hawkins Hardware Co., Huntington, W. Va., had four men on the trip. These included HOWARD EMMONS, general sales manager; JOE GESSNER, refrigeration sales manager; DICK RUSSELL, commercial salesman, and R. H CHATFIELD, household salesman.

Rackliffe Bros. Co., Inc., Connecticut distributor, reached its 1935 total of business on June 1 of this year, and has been operating on "plus" figures ever since.

Four men were present on the cruise from Jones-Cornett Electric Co., Welch, W. Va., in the heart of the anthracite country.

They included, besides President PAUL W. JONES, his brother, J. R. JONES, R. P. WATKINS, and E. VERMILLION.

* * *

Commercial Cruisers

Twenty-five Kelvinator commercial salesmen, merit-winners all, accompanied the 246 domestic refrigeration salesmen on the cruise. The "commercial" winners, drawn from all sections of the country, represented top producers in air conditioning as well as straight commercial equipment and water and beverage cooler sales.

Roster of the commercial cruisers included:

FRED B. BENNETT, Chicago; FRANK BESICH, Chicago; PAUL D. BODWELL, Harrisburg, Pa.; JOE P. BOWERS, Memphis, Tenn.; A. J. CAMPAGNA, Pontiac, Ill.; JACK CONNORS, Denver; C. B. COSBY, Birmingham, Ala.; A. W. CRICKS, Evanston, Ill.; A. CADIEUX, Detroit; JOSEPH A. DUNN, Detroit.

F. H. FACKLER, Seattle; J. J. GILMOUR, Henderson, Ky.; HERBERT H. GRIMM, Kansas City, Mo.; RALPH S. HAMILTON, Salem, Ore.; J. R. JONES, Welch, W. Va.; W. J. KELSO, Long Beach, Calif.; HERMAN KLEIN, St. Louis.

Ed LEVITCH, Cincinnati; A. R. MORIN, Oklahoma City; Gordon B. POFF, Omaha; L. M. REDFIELD and H. B. SPARRY, Minneapolis; L. E. STEMPLEY, Detrot; H. L. WILLIAMS, Jr., Richmond, Va., and P. H. WHITE, Cambridge, Mass.

* * *

Frequently seen together were the 15 dealers and salesmen who made the trip from Detroit and vicinity.

Included in the group were RAY AUGUSTUS, Ypsilanti; LEE STEMPFLY, WALTER LANDBECK, AL CADIEUX, JIM TAYLOR, R.T. "CY" PERKINS, ART SHAW, all of Detroit; RAY NEELY and CHARLEY WOOD, of Flint.

CHARLEY SWARTZ, of Bad Axe; DON SHOFFNER, of Port Huron; ED HACKER, of Detroit Edison Co.; MILT ENELL, operator of the Rosedale Appliance shops in Detroit and suburbs; BILL MUSE, and CHUCK WEBB.

* * *

Chinatown

Havana's Chinatown is composed of approximately 35,000 inhabitants. The section is not very colorful, but it is said to be much more mysterious and harder to penetrate than San Francisco's colony.

Chinese merchants control the fruit and vegetable business of the city, and are encroaching rapidly on the retail grocery trade.

* * *

Modern Cuba

The Republic of Cuba has a total population of 3,962,244 inhabitants. Oriente province, in the extreme eastern end of the island, has the largest population, with 1,072,757 inhabitants.

Only four cities in Cuba have more than 100,000 population. Greater Havana leads with 692,877, Camaguey 130,352, Holguin, 127,443, and Santiago de Cuba, 103,525.

Old Havana, with its many ancient buildings, its churches and forts, its barred windows and heavy doors, together with its narrow streets, and, in some places, only a curbing to indicate a sidewalk, with old Moorish and Spanish architecture predominating, is very similar to cities of Old Spain of a similar size to Havana at the close of the last century.

New Havana, and most of the city west of the Prado and Central Park, together with its modern suburbs of Vedado, Vibora, Lawton, and some parts of Jesus del Monte, is decidedly up-to-date in building construction, with wide streets and sidewalks.

Small parks are interspersed among residences in these suburbs, and the visitor here easily might imagine himself in a modern American city.

* * *

Charming Churches

Havana's churches are a definite though unobtrusive part of her foreign charm.

In them the knowing eye can trace the art-thought of virile centuries long since gone, translated from the old world to the new by the colonists who succeeded Columbus, De Soto, and Velasquez. In their sturdy, fort-like construction can be sensed also the dangers and brutalities of those colonial days when towns were sacked, homes burned, and women outraged by the sea-roving hordes of pirates and predatory freebooters.

Browsing through the dusk of high-vaulted naves, peeping into tranquil little chapels, or strolling into the sunny peace of cloisters, the visitor finds things both interesting and beautiful.

For instance, the flamboyant magnificence of the Iglesia del Sagrado Corazon, the Jesuit cathedral, with its windows of stained glass; the interior of the San Francisco (now the postoffice for Havana), carved by the padres themselves in the sixteenth centry.

The old cathedral—San Cristobal de la Habana—(just across the square, incidentally, from the home of Havana Club rum) where bones of Columbus, brought from Santo Domingo, were interred until the Cuban war of independence in 1898, when the Spaniards removed them to the Cathedral of Seville.

La Merced (Our Lady of Mercy) with its richly ornamented interior and scintillating altars, heritages of beauty from the early Franciscan friars; two-century old Belen church and its handsome college; the patios and great beamed rooms of Santa Clara convent (now headquarters of the Department of Public Works), where 400 nuns once trod these pious stones.

These and other churches, in every part of the city, reward the visitor to Havana with their fund of beauty, antiquity, and tranquility.

* * *

Glimpses of the Past

In unexpected nooks and street intersections you will come upon quaint contradictions of modernity in Havana.

Picking your way along some narrow sidewalk of a teeming street, between glittering rows of shop windows, you will turn a corner and come suddenly upon a quiet little glorietta or plaza where the ghosts of four centuries still linger.

You almost expect to see handsome Spanish nobles in ruff and doublet; African slaves, still mumbling syllables of a Congo tongue; graceful, sparkling-eyed senoritas, and swaggering, unshaven buccaneers, brandishing cutlasses and smelling of rum.

One of the most ancient of these spots is the Plaza de Armas, in the old quarter near the harbor front.

Here are the grim walls of La Fuerza, the medieval fortress which De Soto built in 1537 as a defense against pirate raids, and from whose towers his sad-eyed wife watched dispairingly for his return.

On the east side of the plaza is El Templete, marking the site of the ceiba tree where the first mass was intoned when Havana was established as capital of the island, in 1519, from Batabano on the Caribbean. One of the three cieba trees originally planted still offers a grateful shade from the southern sun.

The ceiba is the national tree of Cuba, and throughout the island is protected from destruction or mutilation by rigidly enforced law.

On the plaza's west side is one of the handsomest examples of Hispanic Colonial architecture in Cuba—the Palacio del Distrito Central or Ayuntamiento (city hall).

Built of Spanish granite, with interiors (wainscoting, doors, and wall panels) of Cuban hardwoods, it served originally as the palace of the Spanish governors-general, later becoming the headquarters of General Leonard Wood.

* * *

The Malecon Drive

Among the chief promenades and parks of Havana is the Malecon, a driveway along the sea shore, bordered with splendid buildings.

The Malecon has two great monuments, one erected in honor of General Antonio Maceo, great hero of the Cuban war for independence, designed by the Italian sculptor Boni. The other is the Maine Memorial Monument, erected by the Cuban Government in memory of the 226 American seamen who lost their lives in the battleship Maine disaster.

This event, as the visitor to Havana will soon discover, is very intimately connected with Cuban history, and assures the United States of the No. 1 position at Cuba's international table.

Incorporated in the monument are two cannons, some chains, and other relics from the Maine presented to Cuba by the American government.

* * *

They Made the Trip

The complete list of salesmen, dealers, distributors, guests, and wholesale field men who made the trip, exclusive of Kelvinator factory officials, follows:

E. H. Abernethy, B. Abrams, L. Abrams, S. V. Abramson, H. Adams, E. G. Alhart, A. A. Allcott, J. Allen, A. G. Anthony, H. Aspinall, R. S. Augustus, A. E. Austin.

M. Bader, J. B. Baesman, E. M. Bagley, W. P. Ballinger, E. Balon, J. Banks, J. Bannigan, D. R. Bates, G. A. Battista, W. Bauman, J. Beiderman, J. L. Beirne, E. K. Bell, J. J. Bell, B. Benjamin.

F. B. Bennett, R. A. Bennett, J. P. Bennett, E. R. Berger, E. S. Berger, J. L. Berkovitz, F. Besich, C. T. Bettes, G. Biehl, G. H. Bitzer, R. J. Black, H. Blackwell, J. Blake, J. S. Blay, C. M. Blount.

W. J. Blue, N. Blum, L. Blunt, H. W. Blythe, P. D. Bodwell, H. W. Boozer, M. L. Borkan, H. Born, J. P. Bowers, H. S. Bowers, W. Boyd, J. Boyd, I. Brady, A. A. Brandt, C. T. Brasfield, F. Braucher, M. T. Braverman, H. G. Brehaut.

C. F. Brewster, D. L. Brillheart, C. R. Brogan, W. C. Brooks, A. J. Broussard, H. L. Brown, W. Brown, F. C. Burchert, F. Burk, G. F. Burtke, H. Bush, S. Byrne.

J. Caddigan, A. Cadieux, F. Cain, E. L. Callahan, A. J. Campagna, B. F. Campbell, M. R. Carlstrom, C. M. Carney, J. E. Carron, C. Carrico, M. Carson, J. D. Cassidy, E. Cederholm, T. H. Challman, C. C. Chamber, P. L. Chamberlain, F. E. Chambers, B. Chambers, E. Chapin, R. H. Chatfield, H. W. Christian, R. L. Clark.

H. Clarke, F. N. Clarke, H. L. Coleman, F. Conden, J. S. Conklin, T. H. Conklin, J. P. Connolly, J. D. Connor, J. Connors, J. L. Conover, H. R. Conrad, C. B. Cosby, J. A. Cosgrove, H. D. Couch, L. V. Countryman, N. Cowan, T. S. Craig, A. W. Cricks, J. C. Crutchfield, W. F. Cullander, J. G. Cunningham, G. B. Czanton.

H. L. Dahl, J. T. Dalton, E. I. Dash, G. L. Davis, J. G. Davis, F. H. Davis, R. H. Davison, G. M. Dean, W. De Grange, R. W. Denmore, C. W. Death, J. C. Dellinger, H. Depew, L. J. Devereaux, J. S. Dohany, C. Donavon, I. Donen, G. P. Dopp, J. Dorover, G. M. Dorset, W. A. Dorsey, R. G. Doty, R. H. Douglas, W. D. Draper, J. E. Dunbar, J. P. Dunham, J. A. Dunn, E. Dunn, J. Dwyer.

J. M. Eakins, O. L. Eaterbrook, S. V. Edmondson, H. E. Emmons, M. Enell, O. Evens, R. J. Everest.

F. H. Fackler, G. T. Fake, H. Fautsch, A. D. Fee, C. Feehan, Mr. Feingold, C. Ferguson, M. Ferick, L. B. Flint, J. Flaherty, J. Forehand, J. G. Forrester, A. L. Foss, S. R. Foster, B. L. Fowler, W. Fredericks, J. H. Frezau, W. B. Friedman, T. M. Friel, F. R. Fuquay.

R. Gambill, C. E. Gambill, D. P. Gambill, N. R. Gangler, R. F. Garner, R. H. Gee, J. B. Gessner, T. Geyer, R. H. Gied, J. Gilmer, J. J. Gilmour, O. O. Glotstein, H. Gluff, G. L. Godfrey, W. Godfrey, R. Goetz, L. C. Goodwin, W. T. Gordon, E. M. Graham, H. A. Graham, J. E. Gray.

E. Hacker, L. Hackett, C. H. Hadley, E. M. Hager, W. Hagerman, M. L. Hagle, E. Halmberg, R. S. Hamilton, H. Hammons, M. L. Hardy, D. L. Harper, F. S. Harris, W. C. Harris, W. H. Harrison, M. T. Harsha, R. N. Haskell, A. Hassman, C. M. Hauer, P. T. Hawkins, F. P. Heede.

D. A. Hendrickson, R. C. Herman, C. E. Hicks, R. Hill, M. Hillery, A. Hirsh, W. H. Hodge, I. Hodges, R. Hoffler, O. Hogue, R. E. Holden, G. F. Holecheck, E. Holmberg, J. Hopley, W. R. Hopper, R. Hotton, H. C. Hueglin, O. K. Hughes, L. Huizenga, C. Humphrey, H. Hunziker, R. P. Hussey, E. Hutelmyer.

H. Israel, H. W. Jackson, G. L. Jackson, L. Jackson, R. Jarvis, E. D. Jeffries, J. M. Jensen, H. Joan, S. Joffe, J. B. Johnson, H. M. Johnson, J. R. Jones, P. Jones, V. Jones, W. B. Jones, H. Jonker.

S. Kaplan, N. Kaplan, L. Kaplowitz, E. J. Kavney, R. D. Kelly, W. J. Kelso, F. J. Kenyon, H. A. Keys, W. H. King, J. King, E. G. Kirby, H. Kirby, A. Kirkland, M. Kirschbaum, W. Kirwan, C. L. Kittle, R. B. Klein, H. Klein, L. Klein, J. M. Kline, H. S. Kluever, J. E. Knott, A. F. Kramer, E. L. Krause, M. Krich, P. Krich, H. Krigbaum.

D. Lacentra, M. S. Lafon, G. Laforte, W. Landback, C. E. Lanford, L. L. Langley, W. W. LaPointe, G. Laporte, P. Largo, R. M. LaRue, C. J. Laufersweiler, E. D. Lee, H. S. Lee, A. H. Lee, R. C. Lemon, E. Levitch, A. Lieberman, H. Liberman, R. L. Lindsay, P. J. Link, K. B. Lipe, B. Lipkin, C. Lipkin, B. W. Little, E. C. Lloyd, R. W. Lovegren, H. T. Lovelace, L. E. Lowe, L. O. Lshansky, J. P. Lucas, C. D. Ludwig, R. Luncy, H. Lustig, R. U. Lynch, H. K. Lyons, J. Lyons.

A. W. MacNichols, A. McCann, W. A. McClelland, E. L. McCoy, J. McDavid, R. P. McDavid, D. P. McDonald, C. B. McElroy, H. D. McFarland, J. R. McGee, J. E. McKahan, A. E. McKenzie, M. McLeish, A. R. McPherson, J. McPhillips.

C. F. Mansberry, M. A. Mantell, L. A. Markarian, J. Marothy, S. Marshall, D. H. Marshall, J. A. Martin, M. Massari, H. Mertz, G. E. Metcalfe, K. Middlemist, G. Millar, L. K. Miller, J. D. Miller, R. L. Miller, J. W. Miller, C. R. Miller, C. D. Mitchell.

E. R. Moats, H. Moll, L. R. Monds, L. C. Montague, M. Mooradian, J. Moore, F. Moore, W. P. Moore, J. Morathy, R. E. Morency, J. Morgera, A. R. Morin, W. S. Morris, C. J. Morrisey, C. V. Mortin, L. Moser, G. H. Mueller, J. L. Mulready, H. D. Murray, C. B. Muse, G. Myer, W. J. Myers.

R. Neely, H. G. Newson, W. Norris, H. North, O. R. Oberland, P. O. Olson.

L. J. Palmer, W. Palmer, H. P. Pasker, F. N. Pattison, C. F. Peglow, H. L. Percy, R. T. Perkins, T. A. Peterson, K. L. Peyton, D. H. Phelan, F. A. Piron, B. W. Place, G. B. Poff, G. Polk, R. M. Powell, C. J. Prashaw, C. Prince.

R. A. Querbes, F. O. Radcliffe, M. P. Randall, P. H. Randlev, E. Rannells, A. Rassiga, N. Ray, L. M. Redfield, O. A. Reed, A. Reep, J. B. Reeves, A. H. Reinach, H. L. Rhodes, W. Riley, W. R. Robinson, R. Rosen, E. H. Ross, J. C. Rowland, R. Roy, C. R. Rudy, E. Runnells, R. L. Russell, A. Ryder.

H. St. John, F. Salway, L. C. Savage, L. Schell, H. L. Schmutz, C. Schockney, J. M. Scholem, L. V. Schroeder, C. R. Schultz, G. W. Scott, A. Shaw, A. Sherwood, D. R. Shoffner, W. Shore, R. H. Shroyer.

C. M. Smith, R. R. Smith, M. Smith, W. E. L. Smith, F. A. Smith, H. J. Smith, C. W. Smithy, F. S. Snyder, H. K. Sollman, F. Solway, C. W. Sommers, J. Spadofore, H. B. Sparry, R. Spencer, L. Stander, R. Stanley, L. A. Stemler, L. E. Stempfly, W. C. Stephenson.

R. Steuber, D. B. Stewart, G. Stockton, R. L. Stoddard, E. H. Strohm, J. Stuckey, J. L. Sullivan, F. A. Suss, J. S. Sutherland, R. Swann, W. Swartz.

H. L. Tangert, J. Taylor, J. B. Taylor, W. C. Teate, J. Tennenholz, A. Therriault, H. Thomas, D. L. Thornley, E. P. Tighe, H. T. Tiller, H. Toker, R. L. Tormey, W. C. Tracy, H. Trowbridge, F. M. Turner, W. S. Twentyman.

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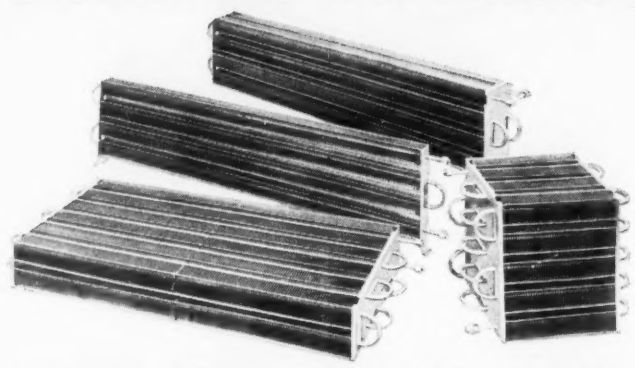

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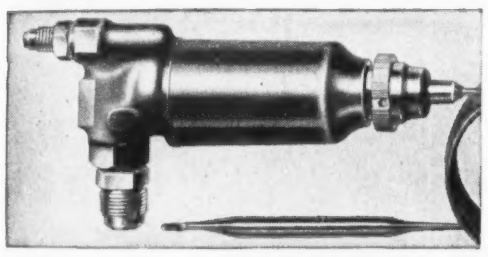

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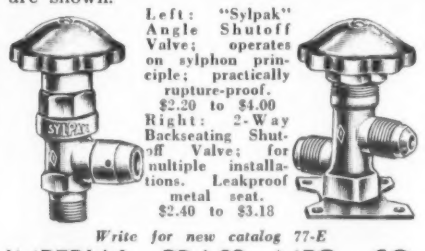

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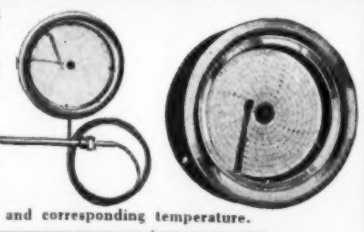

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Air Conditioning Made Easy

By F. O. JORDAN

Numerous Factors Play Important Part in Successful Operation Of Air-Conditioning Coils

SECTION No. 3
COIL PERFORMANCE

(Continued from Last Issue)

In actual practice, standardization demands that the ratio of primary to secondary be fixed at some point suitable to the average ratio of latent to total load, while fan performance and coil efficiency combine to control coil depth within rather narrow limits.

This process of elimination leaves only refrigerant temperature and air velocity in the case of direct expansion coils, or water or brine temperature or velocity and air velocity in the case of indirect coils, as the available adjustments by which the coil may be made to get down to business.

By the proper selection of these factors, the properly designed coil may be made to develop any desired total capacity at *any desired ratio of latent to total capacity* within its range. Generally, water or brine velocity is used as the variable rather than temperature in the indirect coil, because it is difficult to get water or brine to the coil colder than 40° F. while it is not efficient to take it to the coil warmer than 45° F.

For these reasons it is desirable to standardize upon a water or brine temperature between 40° and 45° F. and vary the velocity to obtain various ratios. Actually, the face air velocity should be run as high as possible without noise in order to get all possible out of a given coil.

This leaves only refrigerant temperature (or water or brine velocity or temperature) to be reckoned, and judicial use of this factor will fit exactly to its job the coil unit which has been made economical and efficient by intelligent standardization of the other factors.

Since high humidity is one of the chief causes of discomfort, a discussion of its reduction and attendant problems is pertinent.

Effects from Poor Balance Of Load and Capacity

It is not necessary merely to select air-conditioning equipment that has a total capacity equal to the total load; it is necessary also that sensible and latent capacity equal sensible and latent loads respectively. For even though the total does check, if the sensible capacity is larger than the sensible load, and if the latent capacity is smaller than the latent load, one of the following results will be obtained:

1. If the equipment is not under thermostatic control, the conditioned space will be over-cooled and an undesirable rise in humidity will be allowed.

2. If the equipment is under thermostatic control, the equipment will be held inoperative during so great a portion of the time that humidity will be allowed to rise, not only because of the shortage in latent capacity during running time, but also because running time is short.

On the other hand, if sensible capacity is too great, the dry bulb temperature will be allowed to rise and a larger condensing unit often will be required, since a portion of its capacity will be used by the unnecessary latent work done by the coil.

At variance with the above, the argument has been advanced by the very optimistic that the thing will somehow balance itself.

It is true that sensible capacity increases with rising dry bulb temperature, and decreases with falling dry bulb, while latent capacity increases with rising dew point temperature and decreases with falling dew point.

The tendency is to balance off somewhere due to these self-limiting characteristics.

If the coil is properly selected, very effective use may be made of this "inherent control." And when the selection is not proper, the points of balance usually are far beyond the demands of comfort.

Equipment selected merely on total capacity frequently is very unsatisfactory, as often has been discovered with sorrow.

Uneven Operation Results From Subnormal Load

But even though the coil and its operating characteristics have been so selected that maximum sensible capacity exactly balances maximum sensible load and maximum latent capacity exactly balances latent load, its operation yet will be very unsatisfactory at certain times.

For it is not often that maximum sensible load exists, although maximum latent load often exists coincidental with reduced sensible load because occupancy and ventilating loads (which are the principal producers of latent load) often are at or near maximum, while sun effect may be non-existent and outside temperature may be low.

Under such conditions of reduced sensible load coincidental with heavy latent load, the equipment will be held inoperative by thermostatic action during a portion of the time. During such off-cycles when the equipment is doing no latent work whatever, the humidity level will rise due to the heavy latent load, and the shortened periods of running time will be insufficient to allow the humidity level to be brought back to the desired level even though the latent capacity of the equipment has been increased somewhat by the higher dew point.

Actually the dew point will be allowed to balance at a higher level, where the instantaneous latent capacity has been increased sufficiently to offset the decrease in running time. The greater the reduction of sensible load, the greater will be the rise in dew point necessary to accomplish this, so that eventually a point is reached when the dew point is so high that the condition is very unsatisfactory.

There are various means of taking care of this situation as described in a later section. (See Section No. 16).

Effect of Moisture On Coil Operation

One very serious problem resulting from dehumidification is the problem of discharging the resultant moisture from the coils. The retention of moisture upon the coil surface is productive of the following results:

1. Capacities are decreased because of interference with the exchange of heat between coil surface and air.

2. Resistance to air flow becomes very serious, so that either air flow is reduced, or fans must be speeded up beyond the point of noise and efficiency in an attempt to overcome this resistance.

3. In the case of large coils, moisture is re-evaporated during off-cycle of condensing unit and returned to the conditioned space, defeating one of the chief purposes of air conditioning by raising room humidity.

Room odors held by this moisture are returned to the room or dried onto the coil surface instead of being sent to the sewer where they belong. This soon results in a very sour smelling coil. These results are very common causes for complaint against air conditioning.

The above facts should be given consideration in designing equipment. Air flow through the coil should be horizontal, or downward, (never upward), and fins must not be too closely spaced.

Results Expected from Manifolding Coils

Manifolding should be such that the following results are obtained:

1. Resistance to flow of refrigerant through each refrigerant circuit must be the same and should be not over two or three pounds. If greater pressure drops are used, it becomes necessary to drop condensing unit suction pressures in order to obtain the necessary average coil temperature. Often this will make necessary the use of a larger condensing unit.

2. The load on each refrigerant circuit must be the same. Incidentally, this has to be done in order to accomplish requirement No. 1.

3. Refrigerant circuit must be parallel to air flow, and refrigerant must flow in the opposite direction of air flow so that strict counterflow is obtained.

4. Insofar as possible, the liquid refrigerant should be introduced at the bottom of the coil, and suction lines must be taken off at the top.

5. Liquid refrigerant headers, where used, must be amply large to facilitate distribution of refrigerant among the various circuits. No baffles, orifices or other methods need be used in order to accomplish distribution if refrigerant circuits are balanced as described under the above requirements, so long as header lengths are within reason.

6 Where more than one thermostatic expansion valve is used, the suction manifolding must be such that the bulb for the thermostat expansion valve for each refrigerant circuit may be located where it will be influenced by no other refrigerant circuit.

7. Manifolding must be such that the pressure drop through it is kept at minimum.

SECTION No. 3A
WATER COOLER PERFORMANCE

Since the water cooler is used for cooling the water which is circulated through the chilled water air-conditioning coil of the "indirect" system, a discussion of its performance characteristics naturally follows a discussion of the performance of the air-conditioning coil itself.

As described under Section No. 3, coil performance generally demands water temperatures in the neighborhood of 40° or 45° F. As the rate of waterflow through the conditioning coil is increased, pumping costs of the circulated water also increase, while air-conditioning coil capacities rise due to the fact that conductivities are improved, because the average temperature of the water within the coil is lowered.

Conversely, a reduction in water rate lowers pumping costs, but penalizes in the highest overall economy as to coil and pumping costs. Generally, this rate is about 3 or 4 g.p.m. per ton of refrigerating caacity, which may be computed to mean 8° or 6° F. water temperature rise respectively.

This temperature rise plus the temperature rise of the water as it is circulated through the piping, indicates that the water, as it enters the cooler, generally is between 50° and 55° F.

The cooling capacity of the water cooler per unit of cooling surface depends upon the mean effective temperature difference between water and refrigerant, upon water and refrigerant velocities, and upon the arrangement and type of surfaces used. Since the temperature of the water within the cooler is fixed by certain factors as described above, the mean effective temperature difference between water and refrigerant must be fixed at the desired figure by proper selection of the refrigerant temperature, the mean difference being increased by lowering the refrigerant temperature .

Therefore, lowering the refrigerant temperature increases the cooler capacity, but means a reduction in refrigerant pressure. For the reasons described in Section No. 4, the efficiency and capacity of the condensing unit are reduced by reduction in refrigerant suction pressure, so that lowering the refrigerant temperature within the water cooler impairs condensing unit performance.

Generally, the best overall economy of condensing unit and water cooler is obtained at 35° to 40° F. refrigerant temperature. Temperatures below 30° should not be used because of danger of ice formation.

In one type of water cooler, the water is circulated through a copper coil within a chamber in which refrigerant is expanded. The chief difficulty with this type is that oil is trapped in the expansion chamber due to the low velocity. (Oil trapping is discussed in Section No. 4.

In another type, refrigerant is expanded in a copper coil which is immersed within a water tank. The chief weakness of this type is its low capacity per unit of cooling surface due to the very low water velocity. With this type of cooler, refrigerant temperatures of 20° F. are sometimes used so that a portion of the water within the tank is frozen.

With this method, a smaller condensing unit may be used when the load is intermittent, as the condensing unit may be operated during periods of light or no load to store up refrigerating capacity by freezing ice, the melting of which is used to assist in carrying the peak load. The controls used in this system are described in Section No. 6.

In a third type of cooler, both water and refrigerant are circulated through intimately arranged passages at a considerable velocity so that maximum capacity per unit of cooling surface is obtained.

Generally, water velocities of 180 to 250 f.p.m. should be used, as lower velocities impair cooling capacity, while higher velocities produce no increase in capacity.

A discussion of design factors is given in Section No. 15.

Frick Units Condition Hotel Dining Room And Coffee Shop

DECATUR, Ill. — The Commodore Room, recently completed dining hall of the Orlando hotel here, is finished in the modern vogue— and completely air conditioned.

Comprised of two 10-hp. Frick refrigerating units and a central fan cooling system, the plant will be used also to cool the English Coffee Shop during breakfast, lunch, and dinner hours.

Johnson Service type pneumatic control has been installed, with control buttons in both rooms, for conveniently changing the air conditioning from one room to the other.

The Commodore Room is equipped with automatic air vents for relieving the pressure in the room when it builds up by constant addition of fresh air.

Control is provided for year-round conditioning, with steam coils for winter heating and direct expansion coils for summer cooling.

Installation was handled by Mid-State Engineering Co. of Champaign, Ill., through Midwest Engineering and Equipment Co., Chicago.

Complete Conditioning Installed in Dewees Specialty Store

PHILADELPHIA — Encouraged by the success of a preliminary installation in 1933, B. F. Dewees, local women's specialty store, last July became completely air conditioned.

"Our initial installation," said Dewees' president Thomas Wriggins, "supplied conditioned air to the popular priced dress department and executive office. Results were so satisfactory that we immediately considered complete conditioning."

A central refrigeration plant in the basement distributes conditioned air throughout the store through an elaborate duct system. Providing for year-round conditioning, this system keeps store comfortable at all times.

Wulf Made Sales Engineer At Factory Branch

DETROIT—Hans Wulf, formerly in the factory air-conditioning department of Kelvinator Corp., is now sales engineer for air conditioning at the Kelvinator factory branch on West Grand Blvd.

Census Bureau Figures Show Drop in August Conditioning Sales

(*Concluded from Page 1, Column 2*)

groups were: air conditioning, $1,280,388; fans, $1,433,023; unit heaters, $870,746.

August orders for self-contained air-conditioning systems continued the decline begun in July, total for the month being $93,502 compared with a July total of $321,844. Systems not self-contained fell off to $552,492, from a July figure of $678,146.

Central station systems dropped to $286,170, but industrial systems rose to $141,022. July figures for these two classifications were $408,283, for central station systems, and $49,040 for industrial applications.

Humidifier sales declined to $73,921 during the month, after a July total of $101,552. Air washer orders were down also, showing a $51,916 total for the month, compared with $65,738 during July. Orders booked for air filters were $11,531, against $11,648 during July.

In the fan group, August orders fell off but slightly, totaling $1,433,023 compared to the $1,631,666 figure established during the month previous. Orders booked for unit heaters, however, rose during the month, totaling $870,746. July total for the division was $736,355.

Tucker Dorsey Announces New Controlaire Unit

INDIANAPOLIS — Air-conditioning division of Tucker Dorsey Mfg. Corp. here recently announced the new WA-50 model Controlaire unit air conditioner as the first model of its new 1937 line.

Retailing at $299.50, this new unit is designed to introduce popular prices to the air-conditioning field, according to M. W. Goldberg, Tucker Dorsey's president.

Controlaire uses Freon as the refrigerant and the conventional twin-cylindered water-cooled condensing unit. The machine low side is an extended surface with the refrigerant controlled by a thermostatic expansion valve.

In addition, as a safety device to protect the equipment, a high-pressure cutout and thermal overload relay is incorporated. Complete floating of moving parts on live rubber mountings gives the machine a low noise level, company officials report.

Designed only for summer air conditioning, this new model cools, dehumidifies, circulates, and filters the air, and is completely self-contained.

Controlaire is a result of Tucker Dorsey's several years of air-conditioning research, Mr. Dorsey's original work being with ozone and air ionization.

I. M. Harris, formerly associated with Crosley and Icy-Dairy Corp., and author of United Engineering School's new text, "Air Conditioning and Refrigeration," heads the Tucker Dorsey engineering staff.

Correction

In the tabulation of air-conditioning installations published in the Sept. 16 issue, the heading of the column labeled "hp." (horsepower) in the St. Louis tabulation should have been "kw." (kilowatts). The connected load for St. Louis is therefore somewhat larger than that shown in the tabulation.

Air-Conditioning Group Sales for Month of August, 1936, Total $1,280,388

Data tabulated below is the eighth in a series of monthly statistics on the value of orders booked for air-conditioning systems and equipment, released through the office of Director William L. Austin, Bureau of the Census. Orders booked by 98 manufacturers are shown in this tabulation.

Item	Value of Orders Booked, 1936 August	Total, 8 Mos.
Total	**$3,584,157**	**$28,156,456**
Air Conditioning Group—Total	**1,280,388**	**13,465,767**
Unit Systems—		
Self-contained (shipped substantially complete)	93,502	1,743,549
Not self-contained (shipped in sections), including refrigerating or cooling medium	552,492	4,462,322
Central-station Systems, excluding installation if installed—		
Human comfort (including refrigerating or cooling medium sold separately or otherwise for air conditioning)*	286,170	3,901,097
Industrial (including refrigerating or cooling medium sold separately or otherwise for air conditioning)*	141,022	542,368
Refrigerating or cooling medium sold to contractors or other distributing outlets (not manufacturing air-conditioning equipment) for air-conditioning systems, when such knowledge as to the application is available	69,834	1,557,611
Air washers, including pumps and motors and controls where furnished	51,916	519,962
Air filters (not including sales of filters used with machinery other than fans)	11,531	152,657
Humidifiers	73,921	586,201
Fan Group—Total	**$1,433,023**	**$ 9,299,089**
Fans, including bearings, pulleys or couplings (if furnished)—		
For public and semi-public buildings	140,345	1,144,174
For general industrial uses	408,050	2,700,799
For mechanical draft	228,074	1,097,016
For jobber stocks and unknown uses	74,997	503,523
Small housed and propeller fans—		
Direct connected small housed blowers with motors and control (merchandise motors)	162,243	916,305
Propeller fans, direct connected and belted (for ventilation only)	332,278	2,303,688
Driving mechanism for general fan use (not reported above)—		
Electric motors and controllers (manufactured or jobbed)	72,293	560,113
Steam engines (manufactured or jobbed) / Steam turbines (manufactured or jobbed)	14,743	73,471
Unit Heater Group—Total	**$ 870,746**	**$ 5,391,600**
Industrial Type Unit Heaters, including heating element and motors where furnished—		
Equipped with blower-type (centrifugal) fans	154,019	794,601
Equipped with propeller-type fans	415,586	2,030,540
School-Room Type Unit Heaters, including heating element and motors and control where furnished	133,389	1,361,711
Indirect Heating Surface (not including unit heater surface)—		
Steel pipe coil type (manufactured or jobbed)	.....	14,499
Cast iron type (manufactured or jobbed)	11,896	100,765
Copper or aluminum type (manufactured or jobbed)	155,856	1,089,484

*Includes incidental equipment, such as temperature, motor, humidity, and electrical controls, dampers, outlets, etc., as are sold with each.

Revised Data on Kansas City, Mo. Air-Conditioning Installations

Explanatory Note: Through a clerical error, Kansas City Power & Light Co., in submitting the summary of air-conditioning installations made in the Kansas City, Mo., territory through the first six months of 1936, released incorrect figures for the period previous to 1936.

Although the total number of installations made in the territory remains the same—450—data for 1935 and the period prior to it have been revised considerably in the report printed below.

For example, the original report listed installations made before 1935 as totaling 176, for a total of 1,054 connected hp. Corrected figure is 243 installations, totaling 3,725½ hp. For 1935, original figures were 189, for 6,400¾ hp. Corrected figures for the year show 122 installations, totaling 3,728 hp. The 1936 figures were correctly listed in both instances.

The original (and incorrect) tabulation was printed in the NEWS' issue of Sept. 16. Corrected list was submitted by Anson D. Marston of the air-conditioning division of Kansas City Power & Light Co.

	Prior to 1935 No.	Prior to 1935 Hp.	1935 No.	1935 Hp.	First 6 Mos., 1936 No.	First 6 Mos., 1936 Hp.
Bakeries	3	71	0	0	1	31½
Banks	1	1	2	13½	7	125
Beauty Shops	3	12	2	53¾	2	30
Buildings	1	94	4	2,157	0	00
Drug Stores	3	78	2	52	2	50
General Offices	34	197¾	17	160¾	6	108½
Hospitals	4	3¼	6	8¼	2	41
Hotels	8	365	3	92½	2	208½
Miscellaneous	1	Ice	7	93¼	1	225
Mortuaries	6	19½	3	33	2	16¼
Restaurants and Night Clubs	23	421	12	423	23	279⅞
Sales Rooms and Shops	18	405¼	15	462¾	14	143½
Theaters	21	1,825	1	45	0	0
Private Offices	22	28¼	10	10	0	0
Residences	95	204½	38	123¼	23	95
Total	**243**	**3,725½**	**122**	**3,728**	**85**	**1,354⅜**

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Refrigeration Service, Inc.
3109 Beverly Blvd.
Los Angeles, Calif.

Refrigeration Supplies Distributor
222 N. Vermont Ave.
Los Angeles, Calif.

Refrigeration Parts Exchange
3214 Beverly Blvd.
Los Angeles, Calif.

California Refrigerator Co.
1077 Mission St.
San Francisco, Calif.

Davis Automatic Controls Co.
145 Wellington St., W.
Toronto, Ontario, Canada.

F. C. Lovelock, Ltd.
235 Clarence St.
Sydney, N.S.W., Australia

McGill's Agency
218 Elizabeth St.
Melbourne, C.I., Australia

J. Russell Hancock, Ltd.
49 Courtenay Place
Wellington, New Zealand

Refrigeration Supplies, Ltd.
49 Courtenay Place
Wellington, New Zealand.
New Zealand Express Bldg.
Fort St.
Auckland, New Zealand.

Ahmed A. Fazelbhoy
New Queen's Road
Bombay, India
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Refrigeration Parts FOR ALL MAKES

Dependable service that enables you to give speedier service—and the lowest prices possible. That's what you secure when you deal with "headquarters" for America's largest line. Write for catalog on your letter-head.

Branches:
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Wholesale Only

SEND FOR OUR BARGAIN CATALOG

WHOLESALE REFRIGERATION SUPPLIES
COMPLETE STOCKS—IMMEDIATE DELIVERY
WRITE FOR OUR NEW CATALOG

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LIFETIME COILS AND UNITS

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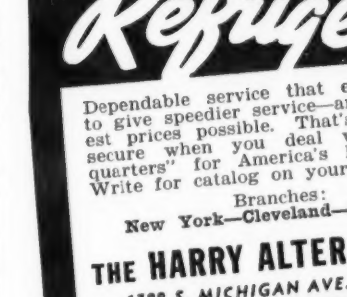
COMMONWEALTH FITTINGS

Built Right to Stay Tight

COMMONWEALTH BRASS CORPORATION
COMMONWEALTH AVE. AND GTRR
DETROIT

UNUSUAL FACTS IN SPORTS



Fullback Gains 350 Yards —No Score!

Time: 1913. Game: University of Michigan vs. Harvard. Johnny Maulbetsch, Michigan fullback, made this sensational individual yardage. Each time he carried the ball into the shadow of Harvard's goal posts the quarterback signaled some other back to carry the ball—all failed. Harvard won, 7 to 0.

Score with Borg Warner

You can score with Borg Warner. More and more refrigeration service men are learning they can better depend on this organization's fast, alert jobbing service and its reputation for winning team play. Borg Warner's complete line of "products of experience" will score with you and your customers.

REFRIGERATION PARTS AND SUPPLIES

Our Catalog Is Yours for the Asking

"Products of Experience"
BORG WARNER SERVICE PARTS CO.

BORG WARNER SERVICE PARTS CO.
Division Borg-Warner Corporation
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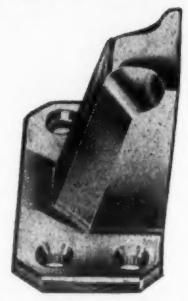
The Buyer's Guide

Special rates apply to this column only.
Write Advertising Dept. for full information.

NEW!



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KASON LATCH
Model K-42

A New Forged-Brass Latch By KASON

BEAUTY—STRENGTH—MASSIVE SEALING POWER— all these features are incorporated in model K-42, KASON'S *newest* refrigerator latch. It is constructed entirely of Forged-Brass, the hardiest metal construction known to the industry and has the mechanical perfection for which KASON HARDWARE is world-renowned. Samples will be cheerfully sent on approval to the trade.

KASON MANUFACTURES THE WORLD'S FINEST HARDWARE FOR EVERY COMMERCIAL REFRIGERATOR NEED

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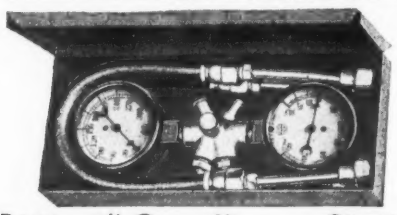
127-137 Wallabout St,, BROOKLYN, N. Y.



Complete Charging Kits

consisting of
1-R100 Charging Connection
2" or 2 1/2" H. P. & Compound Gauges
2-12" Flexible Charging Lines
1-Sliphandle Valve Wrench
1-Metal Box for Entire Assembly

R103 - 2" Gauge Kit - - - **$5.75**
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The above kits are the most necessary item to your tool kits. Get them from your jobber.

Manufactured by
FRANKLIN MACHINE PRODUCTS Co., Inc. 633 Broadway New York, N.Y.

UNIT COOLERS

CONTROLLED HUMIDITY

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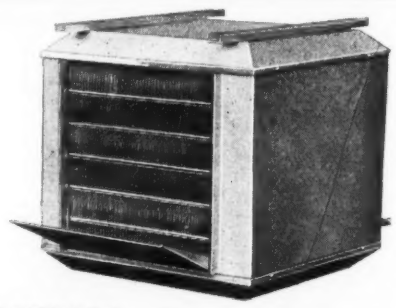

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THE LINDERME TUBE CO. CLEVELAND

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Brass & Copper Tubing
Refrigerator Tubing
Water Service Tubing
Carton Packed Tubing
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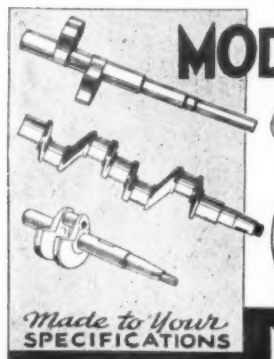


MODERN *Refrigeration* SHAFTS

Send BLUE PRINTS for Quotations

Cut your Shaft costs the "Modern" way . . . Send your blueprints and ask us to quote you on your specifications for Refrigerator Shafts. "Modern" methods of shaft making guarantee quality, accuracy, service.

Made to Your SPECIFICATIONS

MODERN MACHINE WORKS
5356 S. KIRKWOOD AVE. CUDAHY, WIS.

Replacement Condensers

Exactly matching original equipment of all popular makes of condenser-starting motors. All types. All capacities. Electrolytic and oil-filled units. ● Just the thing for electric refrigerator servicing. ● Write for bulletin listing refrigerator motors and their condenser requirements.

AEROVOX CORPORATION
72 Washington St. Brooklyn, N. Y.

AEROVOX

Patents

Issued September 8, 1936

2,053,251. REFRIGERATING APPARATUS. Stanley V. Cook and Frederic L. Chase, Dayton, Ohio, assignors, by mesne assignments, to General Motors Corp. Application Nov. 3, 1930. Serial No. 492,944. Renewed Jan. 31, 1936. 8 Claims. (Cl. 220—9)

2,053,252. REFRIGERATING APPARATUS. Stanley V. Cook and Frederic L. Chase, Dayton, Ohio, assignors, by mesne assignments, to General Motors Corp. Application Nov. 25, 1930, Serial No. 498,090. 7 Claims. (Cl. 220—9)

2,053,290. REFRIGERATING APPARATUS. Daniel L. Kaufman, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio. Application Feb. 9, 1935, Serial No. 5,789. 3 Claims. (Cl. 62—3)

2,053,336. AIR DUCT. Jacob Jacobson, Cincinnati, Ohio. Application April 22, 1935, Serial No. 17,654. 7 Claims. (Cl. 285—197)

2,053,365. THERMOSTATIC OUTLET VALVE. Adolph F. Evers, Jr., Denton, Tex. Application July 8, 1935, Serial No. 30,337. 8 Claims. (Cl. 236—92)

2,053,387. COOLING UNIT. Walter W. Williams, Bloomington, Ill. Application June 11, 1934, Serial No. 730,020. 8 Claims. (Cl. 183—26)

2,053,391. METHOD AND SYSTEM FOR HIGH VELOCITY AIR CONTROL. William J. Caldwell, Bronxville, N. Y., assignor to J. H. McCormick & Co., Williamsport, Pa., Application Sept. 10, 1931, Serial No. 562,077. 5 Claims. (Cl. 98—40)

2,053,393. MEANS FOR CREATING UNIFORM TEMPERATURE CONDITIONS IN SMALL SPACES. Ralph P. Clarkson, Williamsport, Pa., assignor to J. H. McCormick & Co., Williamsport, Pa. Application Dec. 8, 1932, Serial No. 646,243. 4 Claims. (Cl. 98—10)

2,053,395. APPARATUS FOR CONDITIONING AIR. Harry H. Dodge, Williamsport, Pa., assignor to J. H. McCormick & Co., Williamsport, Pa. Application March 23, 1934, Serial No. 717,087. 6 Claims. (Cl. 98—10)

2,053,403. AIR DISCHARGE NOZZLE. John H. McCormick, Williamsport, Pa., assignor to J. H. McCormick & Co., Williamsport, Pa. Application Aug. 22, 1932, Serial No. 629,943. 9 Claims. (Cl. 98—40)

2,053,404. BODY AIR-CONDITIONER. Clarence L. Mumaugh, Lima, Ohio. Application Feb. 16, 1935, Serial No. 6,903. 6 Claims. (Cl. 128—260)

2,053,453. REFRIGERATOR VENTILATING DEVICE. Eugene Wendler, Houston, Tex. Application Sept. 6, 1932, Serial No. 631,830. 4 Claims. (Cl. 98—51)

2,053,520. APPARATUS FOR EFFECTING QUICK FREEZING. Frederick T. Eisenmann, Milwaukee, Wis., assignor to The King Co., Owatonna, Minn. Application Jan. 2, 1932, Serial No. 584,447. 3 Claims. (Cl. 62—102)

2,053,603. AIR CLEANER. Frank A. Donaldson, Minneapolis, Minn. Application April 13, 1935, Serial No. 16,196. 9 Claims. (Cl. 183—15)

2,053,647. APPARATUS FOR CONDITIONING AIR. Ezekiel F. White, West Hartford, Conn. Application March 6, 1933, Serial No. 659,751. 3 Claims. (Cl. 261—91)

2,053,711. RUBBER FREEZING TRAY. John S. Glomb, Barberton, Ohio, assignor of one-half to Robert S. Boyle, Akron, Ohio. Application March 28, 1934, Serial No. 717,802. 2 Claims. (Cl. 62—108.5)

2,053,724. ROTARY COMPRESSOR OR PUMP. Bernard Lightman, Johnnesburg, Union of South Africa. Application Sept. 24, 1935, Serial No. 41,913. In Great Britain Oct. 1, 1934. 13 Claims. (Cl. 103—121)

2,053,771. AIR CONDITIONING SYSTEM. Charles P. Erschen and Richard C. Jepertinger, Milwaukee, Wis., assignor to Air Conditioning Equipment Corp., Milwaukee, Wis. Application March 26, 1934, Serial No. 717,326. 10 Claims. (Cl. 236—44)

2,053,803. REFRIGERATING APPARATUS. Edmund F. Schweller, Dayton, Ohio, assignor, by mesne assignments, to General Motors Corp. Application July 3, 1931, Serial No. 548,584. Renewed Dec. 6, 1933. 15 Claims. (Cl. 220—9)

2,053,827. REFRIGERATING APPARATUS. Edward John Lees Hallstrom, Willoughby, New South Wales, Australia. Application Jan. 31, 1935, Serial No. 4,237. In Australia Feb. 16, 1934. 1 Claim. (Cl. 62—118)

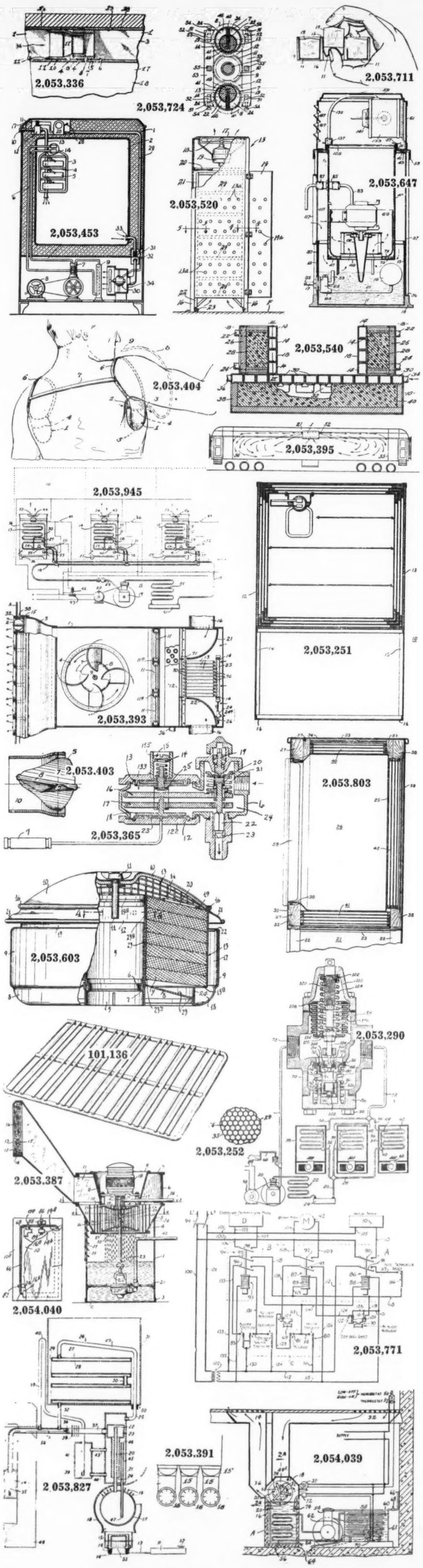
2,053,945. REFRIGERATING APPARATUS. Stuart H. Cowin, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio. Application April 18, 1934, Serial No. 721,183. 8 Claims. (Cl. 62—3)

2,054,039. AIR CONDITIONING SYSTEM. Lawrence M. Persons, Des Moines, Iowa, assignor to Penn Electric Switch Co., Des Moines, Iowa. Application Jan. 13, 1933, Serial No. 651,521. Renewed March 25, 1936. 29 Claims. (Cl. 257—3)

2,054,040. BASEBOARD THERMOSTAT. Lawrence M. Persons, Des Moines, Iowa, assignor to Penn Electric Switch Co., Des Moines, Iowa. Application Jan. 24, 1934, Serial No. 708,072. 17 Claims. (Cl. 200—138)

DESIGNS

101,136. DESIGN FOR A REFRIGERATOR SHELF. Frank D. Peltier, Newburg, Ind., assignor to Servel, Inc., New York, N. Y. Application Sept. 14, 1935, Serial No. 58,551. Term of patent 14 years.



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RATES: Fifty words or less, one insertion, $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning and Refrigeration News, 5229 Cass Ave., Detroit, Mich.

DISTRIBUTORS WANTED

MANUFACTURER of long standing, producing Refrigeration Machines (Ammonia — Freon — Methyl Chloride) also Air Conditioning Units and other refrigerating equipment both large and small, has some very desirable territory open and desires application from parties having experience and ability to handle a territory. Box 851, Air Conditioning and Refrigeration News.

SALESMEN WANTED

LONG ESTABLISHED Manufacturer desires correspondence with refrigeration and air conditioning salesmen. Also Sales Engineers who have had requisite experience and are interested in joining a growing business organization. Several positions open for men having considerable experience. Box 852, Air Conditioning and Refrigeration News.

FRANCHISE WANTED

WE HAVE A CLIENT located in metropolitan New York financially responsible, with the finest of ratings, with a complete selling and servicing organization, with a centrally located showroom and warehouse who is interested in taking on a line of domestic, commercial and air conditioning equipment. This client of ours has been associated with the refrigerator industry for the past five years. All answers treated in strictest confidence. WORTMAN, BARTON & CO., 381 Fourth Ave., New York City.

EQUIPMENT WANTED

ATTENTION Manufacturers and Distributors. We will purchase for cash any surplus quantity of domestic and commercial refrigerators or equipment. We refer you to the National City Bank, Gramercy Park, N. Y. C., for our financial responsibility. All transactions confidential. NATIONAL REFRIGERATOR CO., INC., 352 Fourth Ave., New York City.

REPAIR SERVICE

SAVE MONEY on electric motor repairs. We rebuild and rewind thousands of motors yearly for largest refrigeration firms in the East and can save you money on your motor problems. Write for our price schedule for rewinding or rebuilding motors for refrigeration, oil burners, washing machines, motor stokers, and air condition motors. Out of town motors are picked up and delivered by our motor transportation service. Write for our dealers' price list. P. J. QUINN'S SONS, INC., 166 Vernon Ave., Long Island City, N. Y.

HALECTRIC LABORATORY is America's pioneer repair house for temperature and pressure controls. Our service, price and precision workmanship are unequalled. Ask your dealer about Warrenol for stuck-up jobs. Send us his name and we will send you a generous sample. HALECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

MAJESTIC & GENERAL ELECTRIC units repaired. Our standard job on these units is $20.00, giving you a six months' guarantee. We also have our $30.00 deluxe job, giving you a two-year written guarantee. Please advise which job you want when sending your units. PENO SERVICE COMPANY, Ft. Smith, Arkansas.

GENERAL ELECTRIC and Majestic hermetically sealed units repaired and exchanged. Guaranteed work. Wholesale only. Give model when writing. All prices quoted f.o.b. Chicago. AMERICAN REFRIGERATING ENGINEERS, INC., 2257 Silverton Drive, Chicago, Illinois.

REFRIGERATION CONTROLS, domestic types, repaired. Ranco pencil types $1.75, all box types, $2.00. Majestic $2.50. UNITED GAUGE AND INSTRUMENT COMPANY, 436 West 57th Street, New York City.

MAJESTIC & GRIGSBY-GRUNOW original and genuine factory refrigerator and radio service. We have purchased all of the assets formerly belonging to Grigsby-Grunow. All parts, service replacement units will carry regular factory six-month guarantee. Buy only through our authorized distributors, dealers or ourselves. Complete stock Majestic radio parts and tubes. Write for particulars. GRISGBY-GRUNOW COMPANY, 5801 Dickens Ave., Chicago, Illinois.

SCHOOLS

REFRIGERATION—AIR CONDITIONING. Our facilities have been extended to include a thorough extension course especially suited for men engaged in the industry who want to supplement their practical knowledge with the necessary technical part to insure success. Write to DETROIT SCHOOL OF REFRIGERATION, 4125 Grand River, Detroit, Mich.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

Questions

Foreign Case Makers

No. 2939 (Manufacturer, Indiana)—"I am wondering who manufactures display cases for use in foreign countries. We are bringing out a unit to refrigerate cases, and without knowing the conditions abroad, I imagine that the cases are made in the countries in which they are used, inasmuch as the cost of shipping the complete unit from the United States would be prohibitive.

"If various companies located in foreign countries manufacture display cases, we would like to make arrangements to sell them our new unit covering their refrigeration requirements."

Answer: Manufacturers of display cases in countries abroad are being named in Editor George Taubeneck's "World Series" articles on refrigeration markets and practices in foreign countries.

Ice Refrigerator Sales

No. 2940 (Newspaper, Ohio)—"On the first page of your issue of September 9, 1936 there appears an article giving the number of ice refrigerators sold during the year ending July 1, 1936.

"If it is available, I will very much appreciate your sending me the same information for each of the past five years."

Answer: We suggest that you write to the National Refrigerator Manufacturers Association, 205 W. Wacker Drive, Chicago, Ill., for this information.

Data on Government Bids

No. 2941 (Manufacturer, Illinois)—"In the Sept. 2 issue of REFRIGERATION NEWS there was a story on the front page relative to proposals submitted the government for housing projects. There was nothing mentioned in this story as to the net capacities of the refrigerators involved. If possible I would appreciate receiving this information. Would also welcome data covering the operating costs guarantees. What I have in mind is information as to how the bidders arrive at the figures given in your article. How are the varied conditions of climate and operation taken into account?"

Answer: See below.

No. 2942 (Reader, New York)—"In the Sept. 2 issue of ELECTRIC REFRIGERATION NEWS, you gave the proposals of different manufacturers of electric refrigerators, in the bidding on 16,697 refrigerators for government housing projects.

"The writer is interested in knowing the size specifications on the units covered in these proposals.

"If this information is available it will be much appreciated."

Answer: Detailed information regarding the government specifications for the bidding on 16,697 refrigerators for government housing projects is given on pages 6 and 7 of the Sept. 16 issue of AIR CONDITIONING AND REFRIGERATION NEWS.

Percentage of Gas Units

No. 2943 (Manufacturer, Illinois)—"Have you any information on file covering the number of household refrigerators sold during the year 1935 and for the first six months of 1936 showing what percentage is gas and what percentage electric?

"Any information you have in that connection would be greatly appreciated by us."

Answer: We have no figures on the sales of gas refrigerators.

Total sales of household electric refrigerators during 1935 were 1,688,600 and the sales for the first six months of 1936 were 1,516,600.

Standard Symbols Chart

No. 2944 (Manufacturer, New York)—"On page 18 of your Sept. 23 issue of REFRIGERATION NEWS there is a Standard Refrigeration Symbol chart. We are interested in obtaining several copies of this chart and are wondering if you could advise us where same could be obtained.

"We would appreciate your advice on the above."

Answer: Write to W. B. Henderson, executive vice president of the Air Conditioning Manufacturers Association, Southern Building, Washington, D. C.

New Calif. Manufacturers

No. 2945 (Import and Export Freight Agents, New York)—"One of our South African friends who has heard about a new refrigerator which is being manufactured in California, has requested us to trace the source of supply.

"It is possible that they may advertise their product in your magazine or at least you may have heard of them.

"If you can furnish us with their name and address, we would indeed be grateful for the courtesy. In fact, our friends are interested in handling their line and a profitable connection may develop for them as a result."

Answer: The following California companies manufacture household electric refrigerators:

Gaffers & Sattler
4561 E. 50th St., Los Angeles, Calif.

Gilfillan Bros., Inc.
1815 Venice Blvd., Los Angeles, Calif.

O'Keefe & Merritt Co.
3700 E. Ninth St., Los Angeles, Calif.

Parker Mfg. Co.
2418 Santa Fe Ave., Los Angeles, Calif.

Rubber Door Makers

No. 2946 (Manufacturer, Connecticut)—"We manufacture our own refrigerator cases, coolers, etc., and would appreciate it a great deal if you could send us a list of manufacturers of rubber doors, etc."

Answer: See advertisement of American Hard Rubber Co. in this issue.

Odor Absorbers

No. 2947 (Reader, Illinois)—"In going over a recent issue of the NEWS' advertisements I failed to find any information in regard to a refrigerator deodorizer, such as a small package container with charcoal as a base. Would appreciate your advising me the name of a concern from whom I could purchase this article in large quantities."

Answer: Manufacturers of odor absorbers are:

Betz Corp., Betz Bldg., Hammond, Ind.

Walway Co.
8738 Kercheval Ave., Detroit, Mich.

Kerosene Refrigerators

No. 2948 (Trading Company, Holland)—"For British East Africa, where we have our own branches, we are interested in medium sized kerosene refrigerators in the sizes of 2 cu. ft., 3 cu. ft. and 4 cu. ft.

"If you are able to supply these refrigerators we shall appreciate to receive by return your offer with illustrations, etc., in 10-fold.

"Please quote if possible c.i.f. Mombasa not landed and c.i.f. Daressalaam/Tanga landed. Otherwise f.o.b. including seaworthy packing, stating at the same time exact weights and measurements of cases in order to enable us to make a c.i.f. calculation.

"If you cannot quote for these refrigerators we should like to receive from you some addresses of manufacturers, who can supply this kind of refrigerators."

Answer: See below.

No. 2949 (Magazine, New York)—"As we receive very frequently inquiries for kerosene-operated refrigerators, we are wondering whether you can supply to us a complete list of American manufacturers who offer that type of equipment.

"We know, of course, of some manufacturers like Perfection Stove and Gibson, but we should like to have as complete a list as possible and we are wondering whether you would be kind enough to supply us with this information."

Answer: Kerosene-operated refrigerators are manufactured by the following manufacturers:

Crosley Radio Corp.
Arlington St., Cincinnati, Ohio.

Electrolux Refrigerator Sales Div.
Servel, Inc., Evansville, Ind.

Gibson Electric Refrigerator Corp.
Greenville, Mich.

Perfection Stove Co.
7609 Platt Ave., Cleveland, Ohio.

Allyne Refrigerator Corp.
c/o Cleveland Tractor Corp.
East 193rd St., Cleveland, Ohio.

Coin Meters

No. 2950 (Exporter, New York)—"We want to contact manufacturers of electric coin metering clocks such as are used in this country in conjunction with time payment sales of refrigerators, etc.

"What ever assistance you can extend us will be greatly appreciated."

Answer: The following companies manufacture electric coin meters:

Bugetklok Co.
915 Washington Ave., S., Minneapolis.

General Electric Co., Industrial Dept.
Schenectady, N. Y.

International Register Co.
15 S. Throop St., Chicago, Ill.

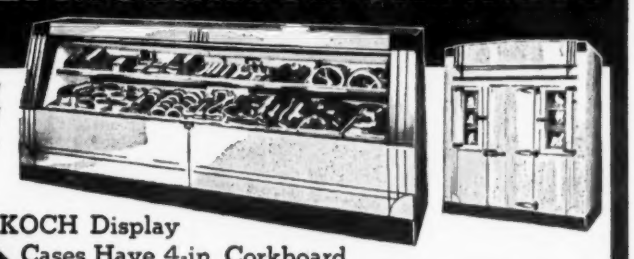
BUNDY ANSWERS:

1. Hydrocarbons
2. The discoverer of radium
3. Bundy Tubing Company
4. Greenland
5. Cotton textiles

The Buyer's Guide

Suppliers Specializing in Service to the Refrigeration and Air Conditioning Industries

DISTRIBUTORS and SALES AGENTS.... WANTED for KOCH COMMERCIAL REFRIGERATOR CABINETS

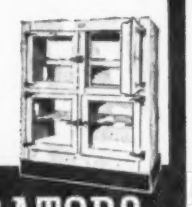


Some very good territories still available

KOCH Display Cases Have 4-in. Corkboard Insulation, Triple Plate Glass, and Are Porcelain Clad

Write for full information, stating qualifications

Complete Market Equipment by KOCH



KOCH REFRIGERATORS
North Kansas City, Mo.

TYLER'S NEW WELDED STEEL REFRIGERATOR CASES

At last a general purpose case at a sensible price. Offers every advantage of the most costly cases at tremendous savings. Modern in every detail. Comes equipped with coils. Single and double duty models.

AN AMAZING VALUE

Hundreds in use. Perfect refrigeration for meat, dairy and delicatessen products and all perishables sold in food stores. Write or wire for all the facts.

TYLER Sales-Fixture CO. Dept. E, Niles, Mich.

3 INCH INSULATION—TRIPLE GLASS

SALES AGENTS & DISTRIBUTORS WANTED

We manufacture a complete line of DISPLAY AND STORAGE EQUIPMENT FOR RETAIL FOOD STORES

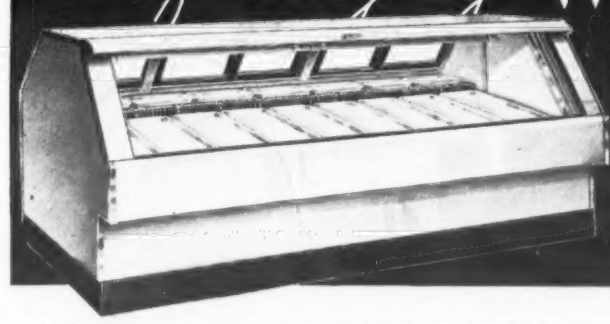
Refrigerator Cases of all kinds, Market Coolers, Reach-in Boxes, Meat Racks, Porcelain Partitions, etc.

Use the complete Sherer line to maintain your volume and profits as the demand for household boxes tapers off. Write us today.

Desirable territories now open. Write us for details.

SHERER-GILLETT COMPANY
MARSHALL, MICHIGAN
ESTABLISHED 1852

Quality by WEBER



—with a background of forty years of progressive development in the design and manufacture of world-famous retail store equipment—Weber products include the most complete line of Refrigerated Display Cases and Boxes—that offer the greatest dealer possibilities.

WEBER SHOWCASE & FIXTURE CO., INC.
5700 Avalon Blvd.
LOS ANGELES

LEADING MAKERS OF REFRIGERATING AND AIR CONDITIONING EQUIPMENT STANDARDIZE ON

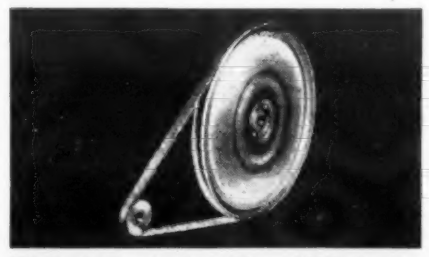
Dayton V-BELTS

● Because of their outstanding advantages Dayton V-Belts have been used as original equipment on leading makes of air conditioning equipment, electric refrigerators, washing machines and other appliances for many years.

Dayton V-Belts are the logical choice because they provide silent, dependable transmission—because their powerful grip prevents slippage—because they run smoothly without weaving, twisting or vibrating.

A nearby distributor carries a complete stock of Dayton V-Belts at all times and can quickly supply you.

Write us for price list and complete information.



Whether for Fractional or a Thousand H.P. there is a Dayton V-Belt Drive for the job.

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